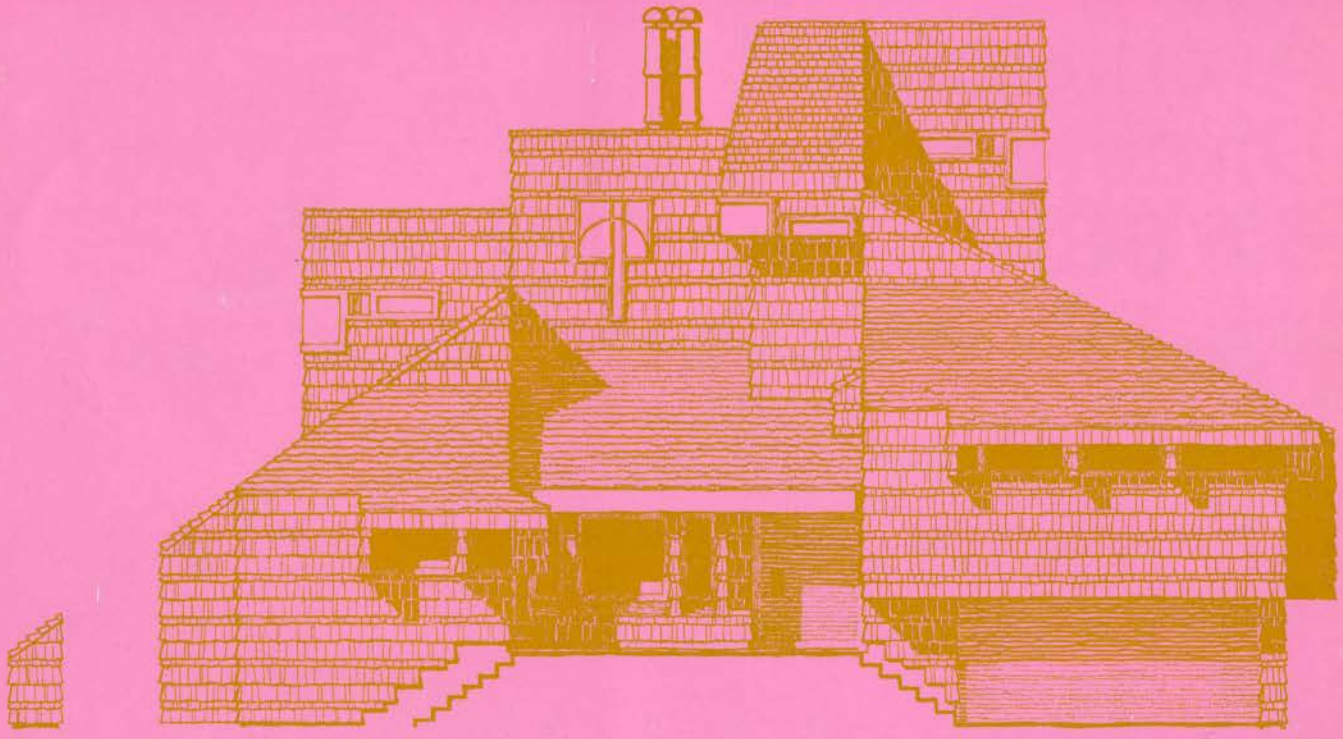
Architecture Canada

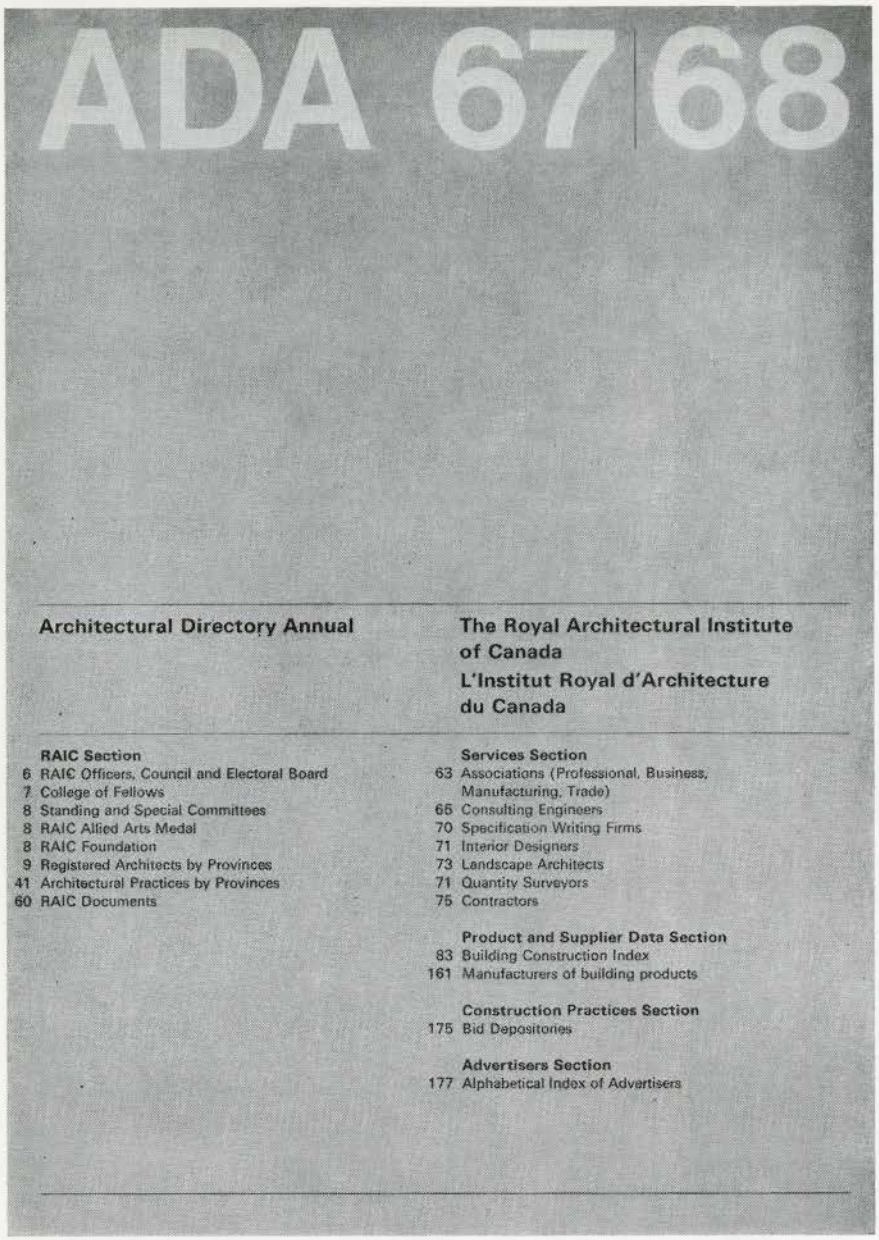
May/Mai 1968 Number/Numéro 5 Volume 45 Journal RAIC/La Revue de l'IRAC

The Allied Arts: "Art in the Architect's Home" by Anita Aarons, examples of art chosen by architects for their own residences

Features Section: (1) five selected houses; (2) urban rehabilitation vs replacement, the Don Vale self-help scheme, by James Lorimer and George Baird; (3) computer applications and the small architectural practice, by Bailey, Benjamin and Strauss

Technical Section: Tendering and Contracts, Part 4, the general contractor's point of view, by J. V. FitzGerald; regional unit prices for masonry, metals





Architectural Directory Annual 67/68

A handy reference source and buyers' guide of building products available (BCI) and a cross-reference list of their manufacturers, up-to-date lists of Registered Architects by provinces, Architectural Practices by provinces, Consulting Engineers, Specification Writing Firms, Interior Designers, Landscape Architects, Quantity Surveyors and Contractors and Professional, Business, Manufacturing and Trade Organizations.

This year we have added sectional tabs and telephone numbers for your convenience.

Order your copy of Architectural Directory Annual (ADA) today. Available from RAIC Publications Board, 160 Eglinton Avenue East, Suite 307, Toronto 12, 416-487-5591. Cost to non-members RAIC is $20 per copy, 2 at $18 each, 3 at $15 each.

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The Royal Architectural Institute of Canada
L'Institut Royal d'Architecture du Canada

Founded in 1907/Fondé en 1907

Patron: Her Majesty the Queen
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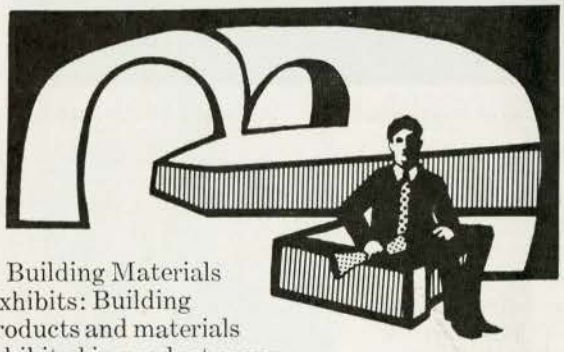
Experience the Better Living Centre.

It opened on March 29. Canada's first permanent creative centre displaying products associated with the building industries. New techniques and concepts are explained in depth. Ever changing and evolving, the Centre will be a constant source of important new ideas in design and architecture. See it soon. It's a stimulating experience.

Waddington Fine Arts: International exhibitions of drawings, painting, and sculpture. Design Canada: Adjacent to the Better Living Centre.

Design House: 7 exciting rooms full of new ideas in interior design.

Better Living Centre, Place Bonaventure, Montreal (514) 395-2138.

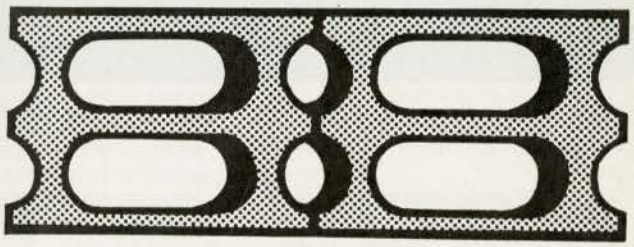


Building Materials Exhibits: Building products and materials exhibited in product groupings for ease of selection.

Informatheque: An information centre detailing building products, codes, product literature and reference library. Adjacent, a professional lounge for study.

Classic's Book Shop for Better Living: The most complete selection of books on architecture, building, industrial and interior design available in North America.

Lectures and Seminars.



Place Bonaventure is where it is.

Alberta Architects May Incorporate

The membership of the Alberta Association of Architects has voted to permit incorporation by members if they wish, but all shareholders in a practice incorporating must be registered architects. The matter was discussed at the annual meeting in January; a referendum was decided upon and the results were 69 for and 29 against.
Of the members voting 52 were at the annual meeting. The Provincial Act must be amended to include authority to incorporate if desired. Council met earlier with the Provincial Cabinet and it was indicated that as engineers already have the power to incorporate there would be no opposition to extending the same right to architects.

Searle Elected AIA Honorary Fellow

It has been announced that RAIC President James E. Searle (*F*) has been elected an Honorary Fellow of the American Institute of Architects. He will be invested during the 1968 AIA Convention in Portland, Oregon, June 23 - 27.

C. Herbert Wheeler, Jr. AIA, Pennsylvania, Associate Professor of Architectural Engineering will speak on "Architectural Practice and Its Many Variations" at the RAIC Assembly, Regina. For the complete Assembly Program see Communique, page 11
Le Professeur C. H. Wheeler Jr. parlera de la pratique professionnelle à Regina.

Convention Expenses and the Income Tax Act

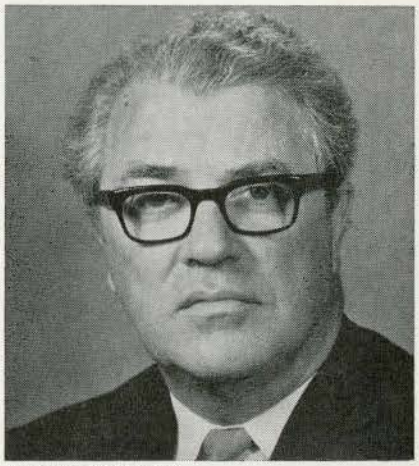
The Deputy Minister of National Revenue has issued the following statement about convention expenses:

Section 11 (1) (ia) of the Income Tax Act authorizes a taxpayer who is carrying on a business or practicing a profession to deduct, in computing his income, the expenses incurred by him in attending not more than two conventions a year provided that
(a) the conventions were held by a business or professional organization and
(b) were attended by the taxpayer in connection with the business or professional practice carried on by him.

Section 12 (2) of the Act specifies that a deduction shall not be allowed in computing income in respect of an otherwise deductible outlay or expense to the extent that it was not reasonable in the circumstances. The rule in Section 12 (2) is, of course, applicable to convention expenses as well as to other expenses.

In view of a number of enquiries that have been received recently from organizations and individuals who plan to hold or attend conventions outside Canada, it is thought that the Department's interpretation of the effect of Section 12 (2) on the deductibility of convention expenses in certain circumstances should be made known generally.

It is the opinion of the Department that, ordinarily, the business purpose of a convention sponsored by a Canadian business or professional organization does not require that it be held outside Canada, where the organization is national in character, or outside a particular province, municipality or other area in Canada where the activities of the organization are limited in scope to such area. *Consequently, expenses incurred in attending a convention sponsored by a Canadian organization that is held outside those geographical limits will normally be viewed as not deductible in computing income.* For this purpose, a convention held during an ocean cruise will be viewed as being held outside Canada.



Douglas Shadbolt

Carleton Appointment for Shadbolt

Douglas Shadbolt (*F*) has been appointed first Director of Carleton University's School of Architecture. The new School will open in September, 1968, and will be associated with the Faculty of Engineering for administrative purposes during the formative years. Professor Shadbolt has been the director of the School of Architecture of Nova Scotia Technical College in Halifax since 1966. He has taught at several institutions including the Vancouver School of Art, the University of Oregon and McGill University.

Prof. Jackson Completing Book

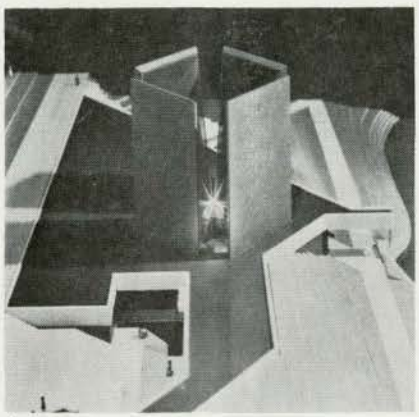
Professor Anthony Jackson of the School of Architecture, Nova Scotia Technical College, has been given special leave for the academic year 1968-9 to complete a book entitled *"The Politics of Architecture: a History of Modern Architecture in Great Britain"* to be published by the Architectural Press, and has received a Canada Council grant to aid his research. He will also be completing a history of tenements in the city of New York.

York Religious Centre Competition Results

The Toronto architectural firm of Page and Steele, (partner in charge of design, David Horne) has won first prize in the Religious Centre/Chapel competition for the York

1
Page and Steele's winning design in the York University Religious Centre competition
Le premier prix du concours pour le Centre religieux de l'Université York a été décerné au projet présenté par Page et Steele
2
Plan
3
Section
Coupe
4
York Religious Centre, 2nd prize design, Architect, Don Bolton, Toronto
Centre religieux York, deuxième prix attribué à Don Bolton, Toronto
5
Third prize design, Architect, John King, Scarborough
Le troisième prix a été décerné à *John King, architecte à Scarborough*
6
Third prize design, Architect, Gunnaws Milics, London
Un autre troisième prix est allé à Gunnaws Milics, London

University campus. Second prize was awarded to Donald Bolton, MRAIC, Toronto, third prize was shared by John L. King, MRAIC, Scarborough and G. Milics, MRAIC, London. The winning designs were selected from 47 entries from Ontario. The jury included John C. Parkin (*F*), Leonard Shore (*F*), Gordon S. Adamson (*F*) and Thomas Howarth (*F*). Professional adviser was John Chapman. The chapel in Page and Steele's design is surrounded by a reflecting pool. Water flows around the upper structure and cascades into a natural lake. A series of depressed terraces lead to a forecourt and the entrance. The interior is oriented upward. Four inverted glass prisms descend from the independent masonry walls to enclose the space.



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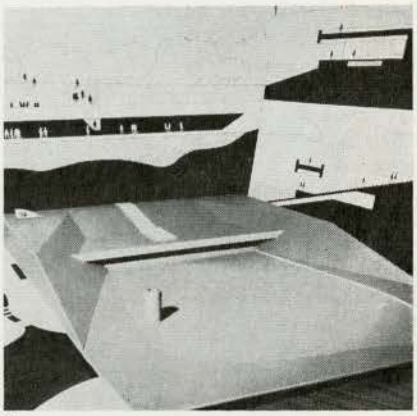

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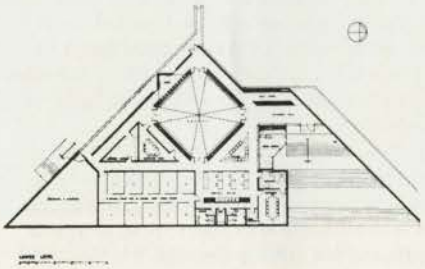
Sunlight in Buildings

Thirty eight scientists from ten countries, all leading workers in the field of solar radiation, have contributed to a book of some 390 pages entitled Sunlight in Buildings, in which all the present knowledge on this subject is brought together in a readable form. The 31 chapters comprise the proceedings of the CIE inter-sessional conference held in April 1965 at the University of Newcastle-upon-Tyne, England. The book is published by Bouwcentrum International, Weena 700, P.O. box 299, Rotterdam, The Netherlands, and the editor is Prof. R. G. Hopkinson, well-known for his work at University College, London.



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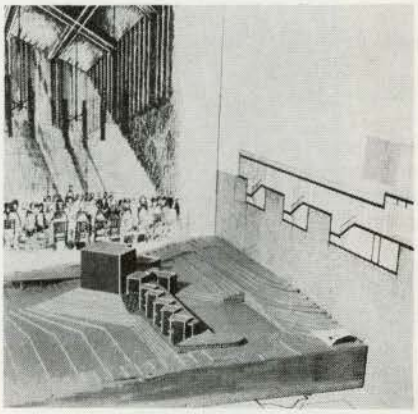

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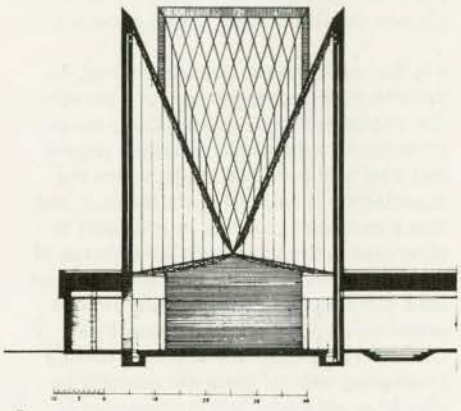
Standard of Modular Building Components Directory

As part of its BEAM program the Department of Industry is planning to publish a Directory of Standard Modular Building Components, a listing of modular building equipment, accessories and materials manufactured in Canada to dimensions based upon the standard building module of four inches.



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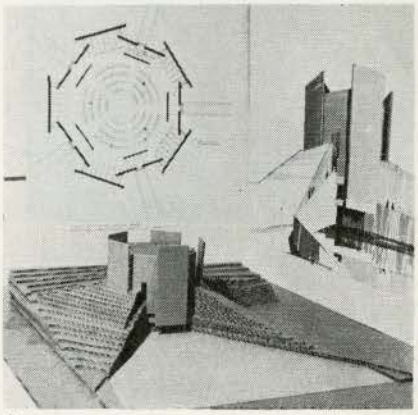

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1967 Annual Tourist Awards

The results of the 1967 Annual Tourist Industry Awards for Ontario have just been made available. The top award went to Bregman and Hamann Architects for the

1
The Niagara Skylon Observation Tower and Dining Room, Architects, Bregman and Hamann
La Tour d'observation Skylon et restaurant aux Chutes de Niagara, architectes Bregman et Hamann
2
Holiday Inn Motor Hotel, Oakville, Architects, Crang and Boake

3
The Pavilion for Toronto Islands, Architect Irving Grossman
Le pavillon des Iles de Toronto, architecte Irving Grossman
4
Imperial Oil Simcoe Centre Highway 400 Architects, Banz-Brook-Carruthers-Grierson-Shaw
Le Centre Imperial Oil Simcoe, autoroute 400, architects Banz-Brook-Carruthers-Grierson-Shaw
5
Three Small Rooms, The Windsor Arms Hotel, Toronto, Architect, Janis Kravis
Trois petites chambres, l'Hôtel aux Armes de Windsor, Toronto, architecte, Janis Kravis

Niagara Skylon Observation Tower and Dining Room, Niagara Falls. Since the award was made the owners have decided to build a hotel and convention center around the base of the Tower. Awards of Merit were given for the Holiday Inn Motor Hotel, Oakville, Architects Crang and Boake; the Pavilions for Toronto Islands, Architect Irving Grossman; the Imperial Oil Service Center, Highway 400 near Maple, Architects Banz-Brook-Carruthers-Grierson-Shaw and the Three Small Rooms Restaurant Complex, The Windsor Arms Hotel, Toronto, Architect Janis Kravis.
The jury was David Molesworth, MRAIC, E. H. Zeidler, (*F*), A. B. Leman, MRAIC, Toronto; James E. Secord, MRAIC, St Catharines and G. F. Coyne, Department of Tourism and Information, Ontario Government.

Coming Events

4th Technical Fortnite, Paris, France, May 16 - June 3.

Fifth IUA Seminar on Industrial Architecture May 19 - 26, Detroit, Michigan.

RAIC Assembly, May 27 - June 1, Regina.

Madrid Symposium on Steel for Prestressing, June 6, 7.

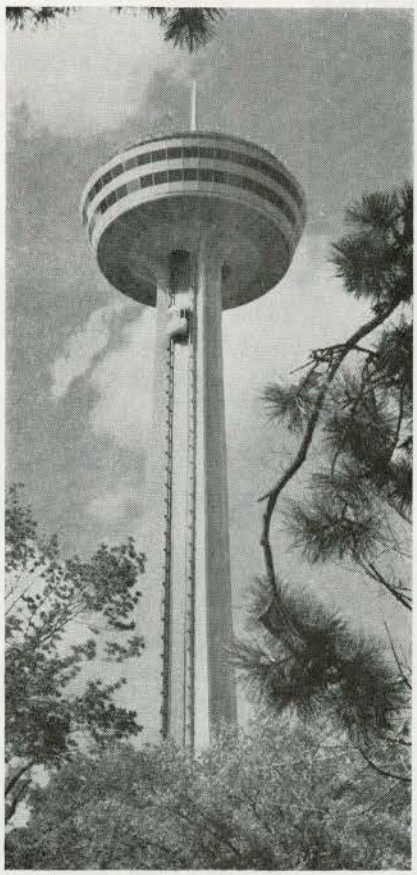
International Federation of Landscape Architects Congress, June 15-20, Montreal.

Symposium on Architecture and Town Planning in Sweden, Sept. 8 - 15. Information from Swedish Institute, Box 3306, Stockholm 3.

National Association of Corrosion Engineers Eastern Regional Conference, September 30 - October 2, King Edward Hotel, Toronto.

"World Building 1968 — Cost and Control", CIB, International Council for Building Research, Studies and Documentation, Fourth Triennial Congress, Ottawa and Washington, DC, October 1968.

19th Olympiad Program for Meeting of Young Architects, Mexico City, October 7 - 10. Details from RAIC Headquarters.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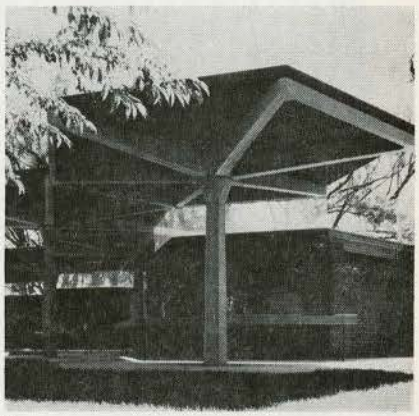
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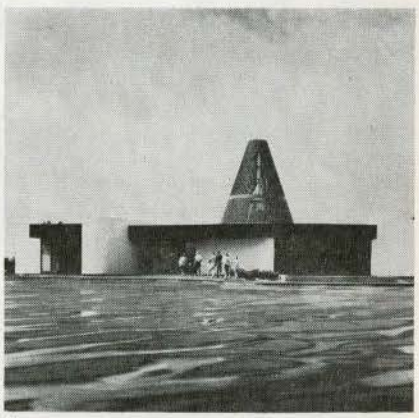
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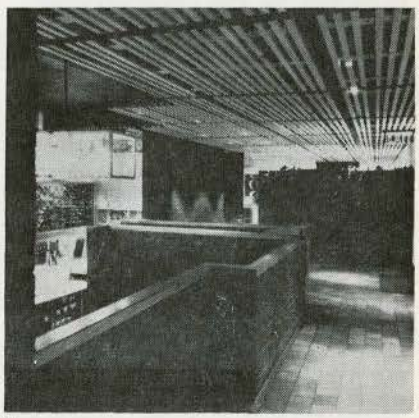
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RAIC/IRAC 1968
Annual Assembly
Assemblée Annuelle

Communiqué 2

All events at Regina Inn unless otherwise specified

Tous les événements auront lieu au Regina Inn sauf avis contraire

Tuesday, May 28

9.00 am	Committee of Canadian University Schools of Architecture (all day)
9.30 am	RAIC Publications Board (all day)
2.00 pm	Committee of Presidents
8.00 pm	Opening, special show on the anonymous environment of early times in Saskatchewan, Norman McKenzie Art Gallery

Wednesday, May 29

8.30 am	Registration and Hospitality Centre, Exhibits (all day)
9.00 am	RAIC Council 1967-68 (all day)
9.00 am	National Architectural Archives Advisory Committee (all day)
9.00 am	Architectural Education Committee
2.00 pm	Massey Medals Committee
2.00 pm	Historic Buildings Committee
2.30 pm	Special Tours by Arrangement
4.00 pm	Public Information Committee
8.30 pm	Welcoming Reception by Saskatchewan Association

Thursday, May 30

8.30 am	Registration and Hospitality Centre, Exhibits
9.00 am	61st Annual Meeting
11.45 am	RAIC Foundation Annual Meeting
12.30 pm	Theme Luncheon: Speaker, Wolf von Eckardt "The Challenge of Urban Growth"; Presentation: 1968 Pilkington Scholarship
2.30 pm	Education Profile Workshop: Participants Gerald McCue, Dean Guy Desbarats (*F*)
3.45 pm	Practice Profile Workshop: Chairman, Prof. H. Wheeler
7.00 pm	Reception: Sweets Catalogue
8.00 pm	Buffalo Days: Dinner and Costume Dance

Friday, May 31

8.30 am	Registration and Hospitality Centre, Exhibits
9.00 am	College of Fellows Business Meeting
10.15 am	Theme Seminar: Architectural Criticism, Chairman, Wolf von Eckardt
12.30 pm	Theme Luncheon: Speaker, Gerald McCue, "Future of the Profession"
2.30 pm	Tour of Wascana Centre
5.30 pm	Reception, Wascana Centre
9.00 pm	Open House: Regina Architects' Homes

Saturday, June 1

9.00 am	61st Annual Meeting (cont'd if necessary)
11.00 am	College of Fellows Convocation
11.45 am	College of Fellows Reception
12.30 pm	Class Reunion Luncheon
2.00 pm	Meeting: 1968-69 RAIC Council
2.30 pm	Tours: RCMP Museum, Art Gallery, Kalium Potash
6.30 pm	President's Reception
7.30 pm	61st Annual Dinner, Presentations: Honorary Membership, Allied Arts Medal, RAIC Gold Medal

Mardi, le 28 mai

9h	Comité des Ecoles d'Architecture canadiennes (toute la journée)
9h30	Commission des Publications (toute la journée)
2h	Comité des présidents
8h	Conférence sur l'environnement anonyme de la Saskatchewan, Norman McKenzie Galerie des Arts

Mercredi, le 29 mai

8h30	Inscription et réception au Centre d'accueil, expositions (toute la journée)
9h	Conseil de l'IRAC 1967-68 (toute la journée)
9h	Comité consultatif des archives nationales d'architecture (toute la journée)
9h	Comité sur la formation des architectes
2h	Comité des Médailles Massey
2h	Comité sur les bâtiments historiques
2h30	Tournées organisées
4h	Comité d'information publique
8h30	Réception offerte par l'AAS

Jeudi, le 30 mai

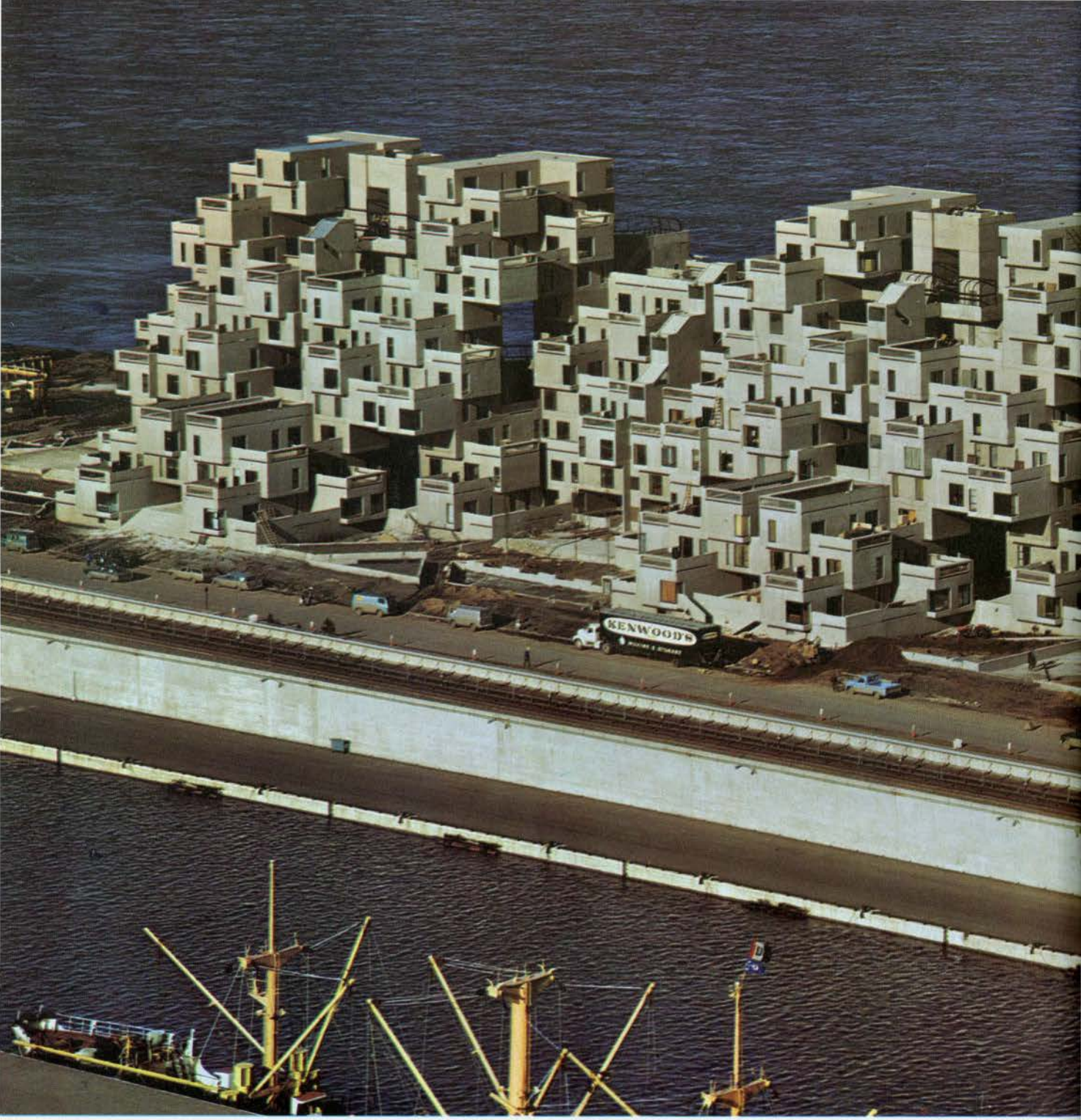
8h30	Inscription et réception au Centre d'accueil, expositions
9h	61e Assemblée annuelle
11h	La Fondation IRAC, réunion annuelle
12h30	Déjeuner-thème, orateur Wolf von Eckardt "Le défi de l'accroissement urbain" Présentation de la bourse Pilkington 1968
2h30	Séminaire sur la formation professionnelle, participants Gerald McCue, Doyen Guy Desbarats (*F*)
3h45	Séminaire sur la pratique, orateur, Professeur H. Wheeler
7h	Réception offerte par Sweet's Catalogue
8h	Dîner et bal masqué (Buffalo Days)

Vendredi, le 31 mai

8h30	Inscription et réception au Centre d'accueil, expositions
9h	Collège des agrégés, séance de travail
10h15	Séminaire sur le thème critique architecturale, Wolf von Eckardt
12h30	Déjeuner-thème, orateur Gerald McCue, "L'avenir de la profession"
2h30	Visite au Centre Wascana
5h30	Réception au Centre Wascana
9h	Réception à domicile par des architectes de Regina

Samedi, le 1er juin

9h	61e Réunion annuelle (à suivre si nécessaire)
11h	Collège des agrégés, assemblée officielle
11h30	Réception en l'honneur des nouveaux agrégés
12h30	Déjeuner, réunion de classe
2h	Réunion du conseil de l'Institut 1968-69
2h30	Excursion Musée, Galerie des Arts et Kalium Potash
6h30	Réception offerte par le Président
7h30	61e Dîner annuel, présentation Membres honoraires, Médaille des arts connexes et Médaille d'or de l'Institut



Habitat 67, Expo's rambling housing project which has pioneered the application of revolutionary concepts arranged to provide architectural variation to its 158 housing units. A highly creative and inventive appr

BOLD, BEAUTIFUL DESIGNS... SOLID

HABITAT 67- NEW CONCEPT IN CONCRETE FOR RESIDENTIAL CONSTRUC

Breaking the skyline along Montreal's waterfront, Habitat 67 stands as a permanent symbol of Man and His World. Built for Expo 67, Habitat is a 12-storey pyramid of precast concrete boxes seemingly haphazardly piled one atop another.

The design of Habitat made possible a production system in which the techniques of large scale prefabrication and assembly line organization were used for the first time on this continent. The method was developed by Francon (1966) Limited who supplied a total of 2758 precast elements utilizing 27,000 cubic yards of concrete. In spite of the fact that assembly line techniques were employed, very few of the elements are exactly alike. In fact there are said to be some 160 architectural and structural variations within the project.

Essentially a research project, Habitat may prove to be a striking answer to the proble of high density urban living. From the construction point of view, it demonstrates t versatility of concrete and offers a preview of future applications of this universally us building material.

The conception and the erection of this exciting complex are testimonials of the genuity and ability of Canadian designers and builders. The Canada Cement Compa is proud to have been associated with this spectacular breakthrough in building tec nology.

CANADA CEMENT COMPANY, LIMITED. A Canadian-owne

tecture, engineering and construction, consists of 354 modular precast concrete boxes seemingly haphazardly
igh density urban living, Habitat 67 is of tremendous importance to the advancement of concrete technology.

ENDURING STRUCTURES IN CONCRETE

J

Architects: Moshe Safdie & David, Barott, Boulva
Structural Consultant: Dr. August E. Komendant
Structural Engineers: Monti, Lefebvre, Lavoie, Nadon & Associates
Concrete and concrete members supplied, placed and erected by: Francon (1966) Limited

CANADA CEMENT

ompany supplying the nation with quality cements since 1909.

Announcing...

A totally new contribution in the field of architectural finishes and services for...

...CEILINGS -
- ACOUSTIC
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- ILLUMINATED
- MODULAR
- TRANSLUCENT
- METAL

...PARTITIONS -
- ACOUSTIC
- FIXED
- DEMOUNTABLE

...FLOORS -
- ACOUSTIC
- FLOOR COVERINGS

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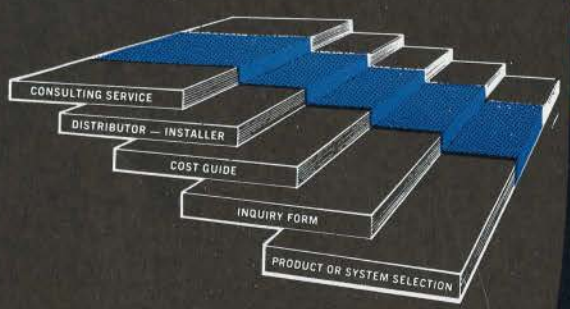

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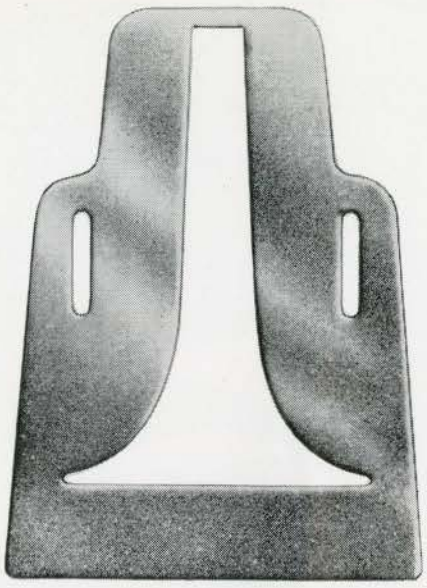

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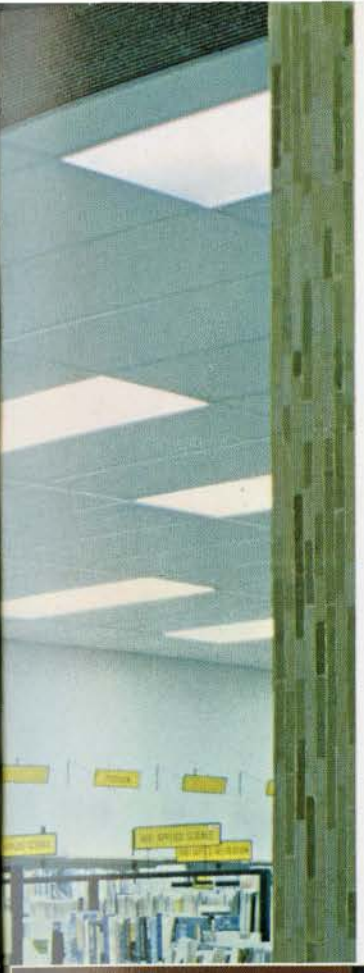

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Allied Arts Catalogue

Volume I

. . . a really impressive and infinitely useful contribution to the Canadian art scene, and to all those concerned with the visual art in this country . . .
Dorothy Cameron, Art Consultant, Toronto

. . . enormously stimulating . . .
Augustin Filipovic, Artist, Toronto

. . . its value lies principally in the fact that it is the only organized and ready source of photographs and information covering artists whose work might be considered for inclusion in architectural schemes . . .
W. J. Withrow, Director, Art Gallery of Ontario

. . . exactly fills the needs of architects quick reliable graphic information on available artists in the various media . . .
Ray Affleck, MRAIC, Montreal

Painted wood sculpture
by Patricia Fulford
Allied Arts Catalogue, page 41

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Art in the Architect's Home

A man's home (even an architect's) is his castle. Here are some "kings" in their castles who show their treasures – art objects acquired for as varied reasons as the styles they have collected. In thanking the architects who have responded, commentary will be cut to a minimum to allow graphic illustration. Architect may then ponder on architect – his tastes, choices and his veneration for a less prosaic discipline than that of his own profession.

For myself, with a sigh, I could wish that the architect in being a responsible agent for placing commissions for clients would evince as much personal interest and responsibility for the task as he does with his own possessions. I am appalled at the evidence, from day to day, of lack of thought and time taken for due reflection by the average architect when "saddled" with the task of commissioning art work or purchasing a special piece on behalf of his client. The architect as an intermediary who is trusted to know his aesthetics, is showing (in many instances I have personal knowledge) an irresponsibility to select or seek advice. Both client, and artists in the field, are ill-served when hasty decisions without due consideration for personal tastes and fitness of situation are made. The situation is distressing and such irresponsibility is hard to tolerate. The architect must be aware that where he is careless in stewardship, which happens in other aspects of architecture, the initiative passes to other hands not always desirable as far as his interests are concerned.

Sources and Resources

For the architect who is busy or is not au fait with the "scene" or who lacks personal convictions to make a choice there are many resources at hand for his convenience. We, the RAIC, have our *Allied Arts Catalogue* (see page 18). Some architects, believe it or not, are still unaware of its publication or have not bothered to examine the contents for their information. We have also our own Allied Art Department at *Architecture Canada* with a large file of artists and information both factual and graphic always at the disposal of any architect who requests help. There is also, in every main center reputable galleries and art advisors who can at least supply the names of artists and visual evidence to allow thoughtful choice.

There is a trend towards allowing an interior decorator to take over the acquisition of artifacts and other art items as well. It is, to say the least, an inadequate service to the architectural artists who at all time need close collaboration with the designer of the building and his client.

It is the client and his relationship with the artist which is so shamefully neglected. There are too many instances where a delighted client has never met the artist in person and would like to do so. In the long run it is the personal contacts and personal pleasures and relationships in the world of art and architecture which yields the best means of a progressive relationship.

Some Observations on Contributions

John Parkin, Toronto. The exquisite, almost holy enshrinement of an Ivor Smith sculptured head makes one long to see such care and refinement in placing and isolating the small object translated into the environment of more public places. This domestic *prie-Dieu* to art enshrines the small god in its own ether – a kind of intelligence I wish architects would practice publicly.

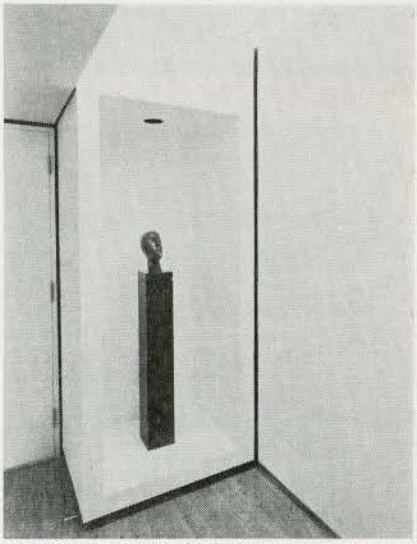
Raymond Moriyama, Toronto, considers himself "an erratic and compulsive accumulator – whose wife, a painter, adds some semblance of logic and makes the pile a collection." The collection, by the way, consists of a "partial" list of more than thirty original works of leading Canadian and international artists. His workshop environment (space allows too few illustrations) reveals the Japanese inheritance of a culture where hearth, home, office and art are inseparable elements.

Architecturally, banks, insurance offices and the like have need of an infusion of similar ingredients in the general sterile environments of our own spiritless architecture. It *can* be done with sensitivity rather than self-conscious effort.

G. R. Kerr, Saskatoon, is also a painter of considerable talent. He shows his faith in integrated art as well as the conceptual object by making a Bonet's mural wall part of his domestic architecture.

Les Stannard, Toronto, youngest of the contributors, still in his final year of architecture has shown throughout his training a passionate interest in art as well as architecture. This is manifested in a real way by an already mounting collection of important paintings, prints and sculptures. His one room apartment (again one needs many illustrations) has crowded into one small area Towns and Bairds etc. which succeed in isolating themselves. These items are chosen with a rare perception and tenderness and have a strange ability when thus chosen, to survive crowded surroundings and assert their own presence. One notices this mainly in artists' homes where love of art transcends the desire to interior decorate. One wonders if this rare quality in the young architect will survive the tough hard reality of architectural practice?
As for the rest . . . over to you, see overleaf.

Anita Aarons



Head by John Ivor Smith in John C. Parkin's residence, Toronto
Le Buste par John Ivor Smith se trouve dans la résidence de John C. Parkin, Toronto

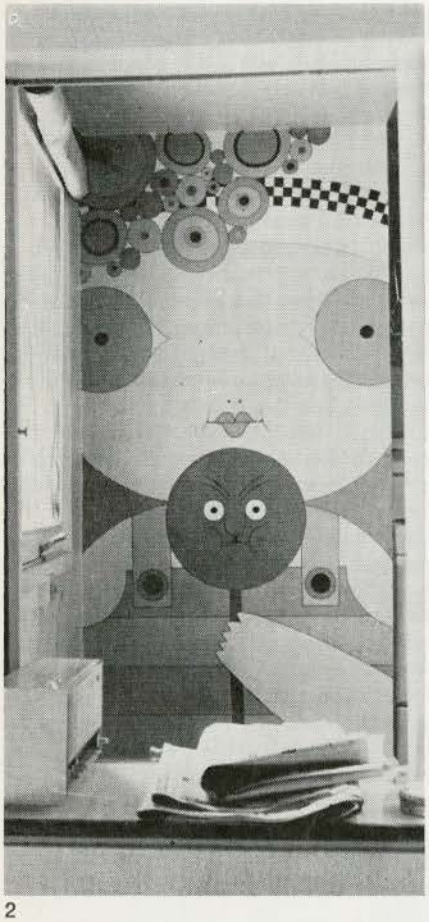
2
Mural by Arnaud Maggs in kitchen of Jerome Markson, Toronto
Ce mural par Arnaud Maggs se trouve dans la cuisine d'une maison appartenant à Jerome Markson à Toronto

3
Toronto architectural student Les Stannard's collection
La collection de Les Stannard à Toronto

4
Pot by Vera Grolle in home of E. H. Grolle, Regina
Cette potterie, créée par Vera Grolle, se trouve dans la demeure de E. H. Grolle à Regina

5
Left to right, prayer rug from Turkey, Roy Kiyooka and Harold Town in Raymond Moriyama's office, Toronto
De gauche à droite on aperçoit dans le bureau de Raymond Moriyama à Toronto un tapis venant de Turquie, un Roy Kiyooka et un Harold Town

6
Bronze sculpture by J. C. S. Wilkinson, Alan Hodgson's home, Victoria
La sculpture en bronze par J. C. S. Wilkinson appartient à Alan Hodgson, Victoria



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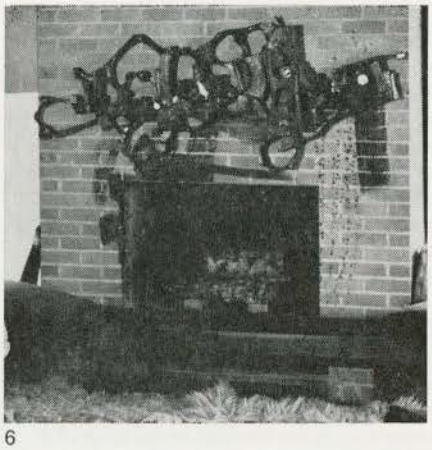

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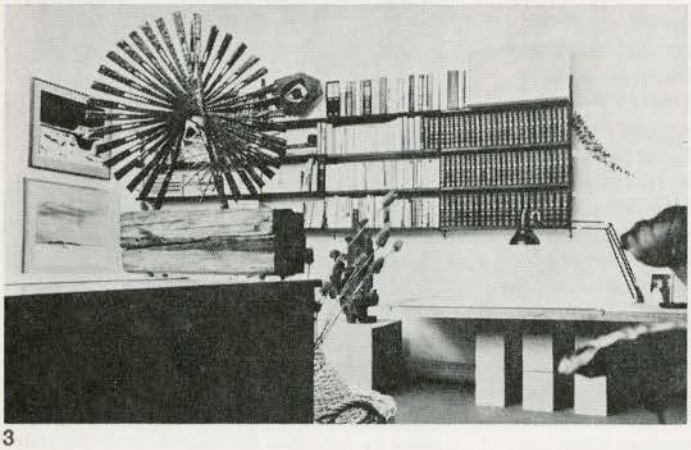

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7
Paintings by Jean McEwen, Harold Town and Nakamura in the home of John C. Parkin, Toronto
Ces trois peintures de Jean McEwen, Harold Town et Nakamura sont la propriété de John C. Parkin à Toronto
8
Jordi Bonet mural in living room of G. H. Kerr residence, Saskatoon
Le mural en céramique de Jordi Bonet fait partie du salon de la maison de G. H. Kerr, Saskatoon

9
Wall Tapestry by Cindy Baird in the home of A. P. Tilbe, Toronto
Cette tapisserie, création de Cindy Baird, appartient à A. P. Tilbe, Toronto
10
Residence of David Horne, Toronto – painting by Mercedes Horne, large pot by Merton Chambers, small painted pot on round table by Cathy Harbison
La Résidence de David Horne à Toronto – peinture par Mercedes Horne, cache-pot de Merton Chambers, petit pot peint, placé sur table ronde, par Cathy Harbison


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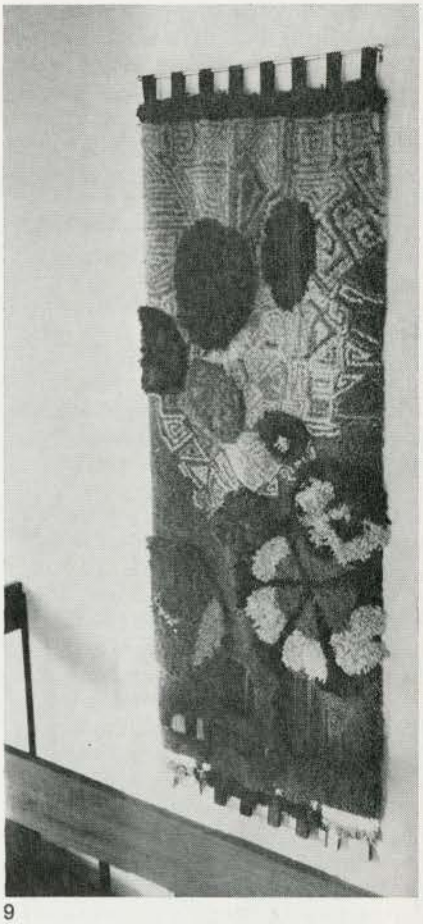
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Eli Bornstein
Allied Arts Medalist
1968

In awarding the Allied Arts Medal for 1968 to Eli Bornstein, the RAIC has this year chosen to single out for merit both a distinguished artist and scholar. Past recipients, it may be said, have been rewarded for tangible evidence of their work with architecture. In addition to this, it is the "intangible" work of Bornstein which can be said to have had far-reaching subtle influence on the art and architecture climate of Canada.

Bornstein, a distinguished practicing artist is equally well-known as the Head of the Art Department of the University of Saskatchewan since 1963 and as the editor-publisher of *The Structurist*, an annual art publication published in Saskatchewan and distributed throughout the world.

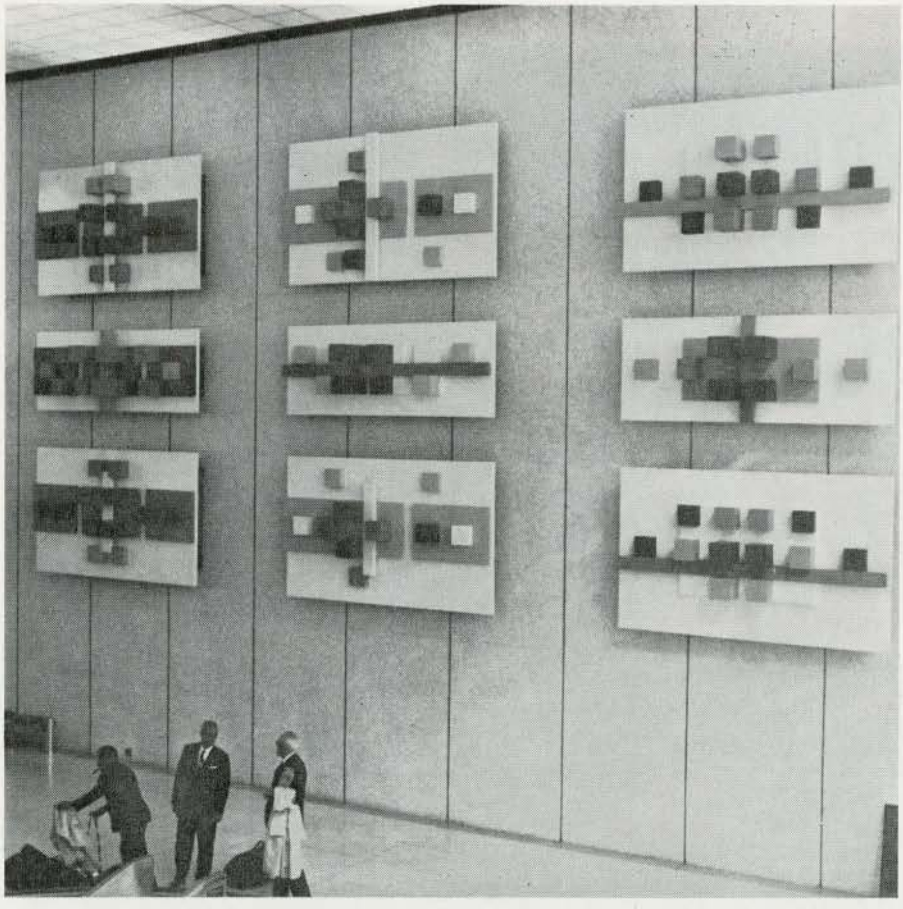
A constant pioneer for constructivist art, the publishing of *The Structivist* has created a voice for structurist art, not merely stating the case repetitiously for the European origins of De Stijil, constructivism and constructionism movements, but more the growth of the North American equivalents which have developed their own unique attitudes and forms of expression. Espousing the cause for pure abstract art on its non-referential terms as a form to be evaluated in its own right, Bornstein has created an atmosphere for all the young artists to follow. Especially courageous was this in the area of Western Canada where, particularly in architecture, a parochial attitude towards a depictive image was the only acceptable form of art. Story telling as a decorative additive in mural form overshadowed public art right up to the late 50's and early 60's.

Eli Bornstein's pioneer work in publishing preceded the work of the Allied Arts column in *Architecture Canada*. In 1961-62 a special issue of *The Structurist* was devoted to the problems and conditions of art allied with architecture. This thought-provoking issue undoubtedly bred a sympathy where the development of a special column on the subject in *Architecture Canada*, its success, and the subsequent publication of the *Allied Arts Catalogue* became natural possible developments.

His teaching and general encouragement to pure classic form of expression in art can be felt in the long line of virile young painters and sculptors now working in Canada with cool classic architecturally scaled work in unambiguous abstract terms. The many commissions awarded in the late 60's begin to show the affinity and sympathetic formalization existing between architecture and the disciplines of constructivism. Whether separate or closely integrated, constructivism in art and architecture has made valid statements so that the conjunctive acts in public art are once again revitalized and are finding new and aesthetic meaning in society.

However, in the long years of teaching and publishing, Bornstein has not forgotten, in the seclusion of the University, that he is a professional and practicing artist . . . with singular vision he relates his threefold duties into a unified trinity. Without compromise, the man's ideas, proselytizing and creative productions reveal an extraordinary consistency of classic clarity, spirituality wedded to quiet unflamboyant quality. His statements in and for art speak for themselves and demand attention each separately in its own right.

Anita Aarons



Eli Bornstein's structurist relief in 15 sections for Winnipeg International Air Terminal, enamelled steel, 1962. Wall 35 ft x 100 ft

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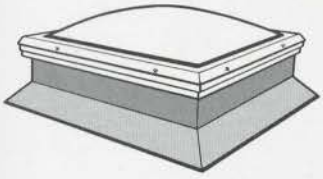

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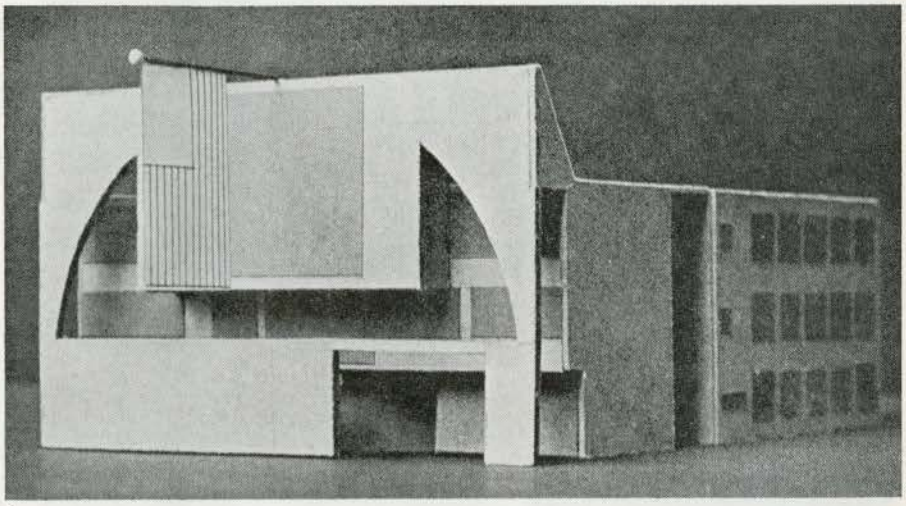
Brinton Carpets by Armstrong

We await with great interest the rebirth of the magazine "New York" which is due on the newsstands shortly. Many will remember it as the Sunday magazine of the *Herald Tribune* and it was a real swinger. The guiding force was and still is to be Tom Wolfe, whose book, *The Kandy Kolored Tangerine Flake Streamline Baby* is now the bible of the pop architectural movement in America and has become required reading in many architectural schools. Wolfe's book is about "culture makers" and we quote a bit on Las Vegas.

"Las Vegas is the only town in the world whose skyline is made up neither of buildings like New York, nor trees like Wilbraham, Massachussets but signs. . . . But such signs! They tower. They revolve, they oscillate, they soar in shapes before which the existing vocabulary of art history is helpless. I can only attempt to supply names – Boomerang Modern, Palette Curvilinear, Flash Gordon Ming-alert Spiral, McDonald's Hamburger Parabola, Mint Casino Elliptical, Miami Beach Kidney. Las Vegas sign-makers work so far out beyond the frontiers of convential studio art that they have no names themselves for the forms they create. . . .
The Baroque Modern forms made Las Vegas one of the few architecturally unified cities of the world – the style was Late American Rich – and without the bother and bad humour of a city council ordinance.
No enterprise was too small, too pedestrian or too solemn for the look. The Supersonic Carwash, the Mercury Jet-away, Gas Vegas Village and Terrible Herbst gasoline stations, the Par-a-Dice Motel, the Palm Mortuary, the Orbit Inn, the Desert Moon, the Blue Onion Drive-In – on it went, like Wildwood, New Jersey, entering Heaven."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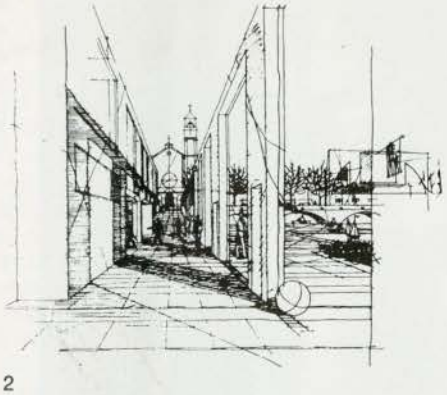
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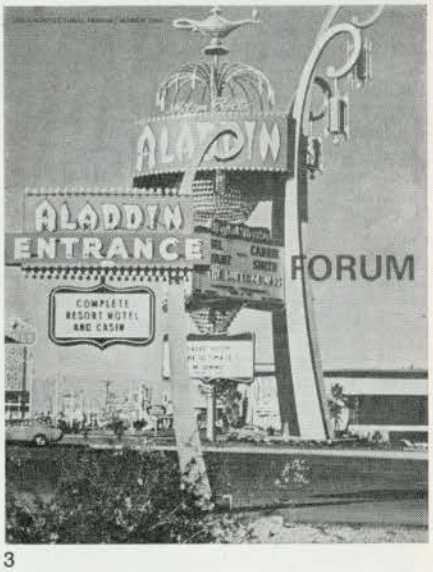

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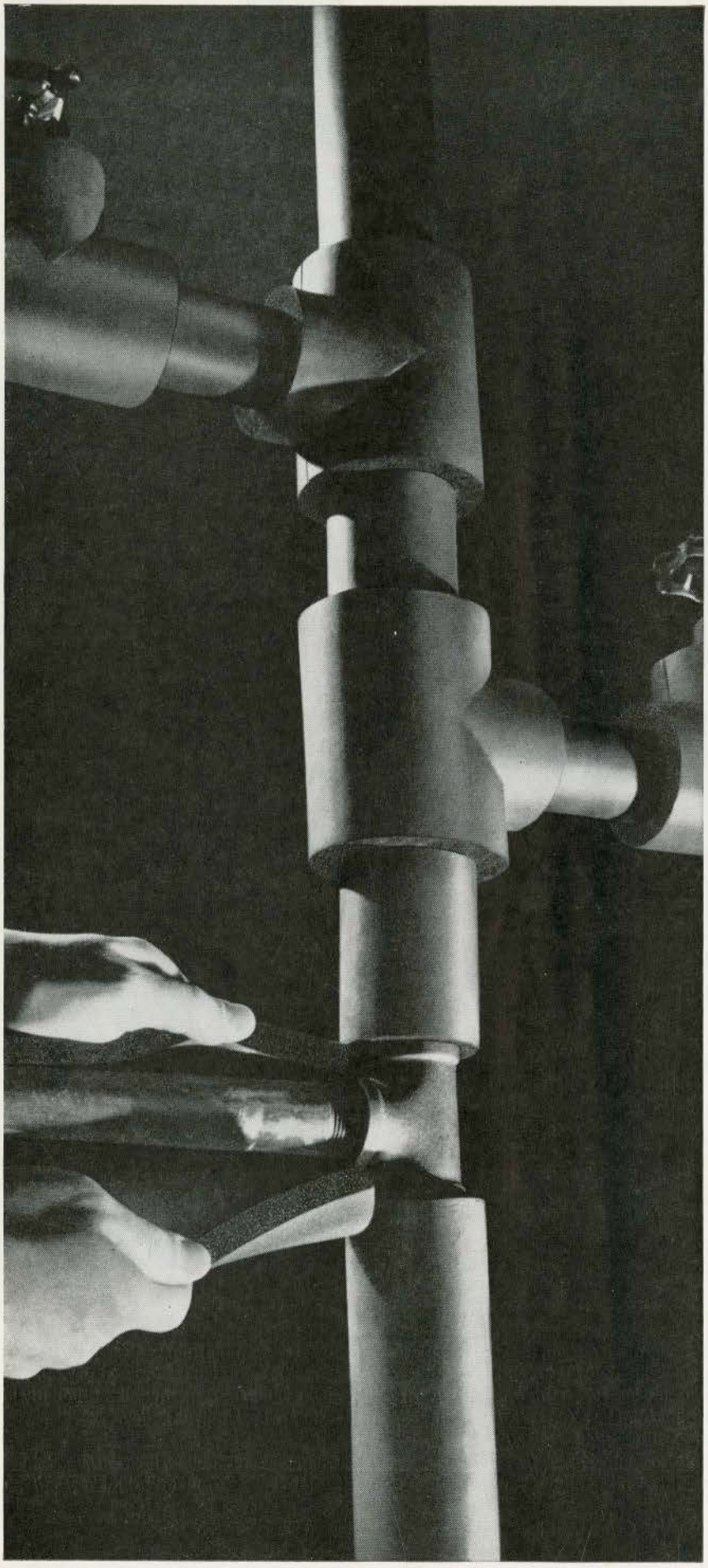
If Tom Wolfe is the literary exponent of the movement, then Robert Venturi of "Complexity and Contradiction" fame is the architectural activist. *L'Architecture d'aujourd'hui,* January 1968, focuses on Venturi's projects at North Canton, Ohio, (**1**, **2**) (which literally translated is "Main Street U.S.A.") an architecture of accommodation; while *Forum*, March 1968, features a Wolfian cover (**3**) and an article, "A Significance for A & P Parking Lots or Learning from Las Vegas", written in collaboration with Denise Scott Brown (Mrs. Venturi). The message – a call for the recognition of the forces that are shaping the street ("learning from the existing landscape"). We in fact welcome the vitality of much of this movement and particularly in taking a hard look at *Today*.

The question remains, however, is Main Street really "almost all right"? *B.M.*



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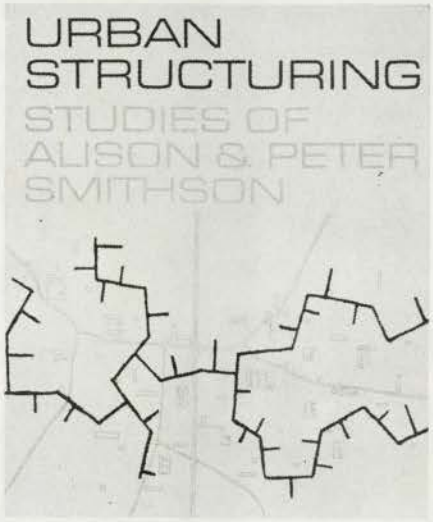

Urban Structuring

Peter & Alison Smithson
Reinhold Publishing Company, New York, in Canada, General Publishing Co Ltd, Don Mills, Ontario; 1967, 96 pages, $2.75

The Modern Movement propagated its ideas as much by manifesto as by actual building and the Smithsons extend this tradition into our own time. Their work is generated by such concepts as "patterns of association", "identity", "cluster", "mobility", none clearly defined and all over-simplifications of highly complex problems, yet all endowed with an almost magical power of suggestion. This book presents a collection of Smithsonisms and each verbal incantation has its accompaniment of visual material in the form of line drawings and some photographs. *Urban Structuring* includes samples of notional schemas and case studies of Sheffield University, the Berlin Plan, several studies for London, Cambridge and other places in Britain.

"The method of analysis for the projects (i.e. Team 10 breaking away from C.I.A.M.) . . . was, roughly, in terms of human association rather than functional organization, thus marking a radical break in architectural thinking" writes Theo Crosby in his introductory mini-summary of the Smithson milieu.

In this radical break lies the Smithsons' powerful influence on their own and the younger generation. Their urban structuring might be termed a return to the Picturesque (in its proper and English sense) while paradoxically remaining within the formal/functional disciplines Heroic Modernism.

Their Berlin Plan of 1958, for instance, reveals characteristics of rationalism (articulation of parts by function and systematic movement routes), of expressionism (abandonment of rectilinear form and its connotation of the abstract and the impersonal), and of romanticism (sense-of-place achieved by idiosyncratic modulations of space).

"This is a record of a search" is the Smithson's opening phrase in Urban Structuring. "No attempt has been made to eliminate. . . . opinions we do not now regard as completely valid."

Is one of these opinions their manifesto-like claim "The appropriateness of any solution may lie in the field of architectural invention rather than social anthropology"? Try *that* one for size on urban economists, demographers, sociologists, transport systems analysts and regional land-use planners.

The Smithsons, Heroic in their search, may yet need to re-phrase their claim as "The appropriateness of any architectural invention may lie in the field of social anthropology *et al.*"

George Balcombe, School of Architecture, Nova Scotia Technical College

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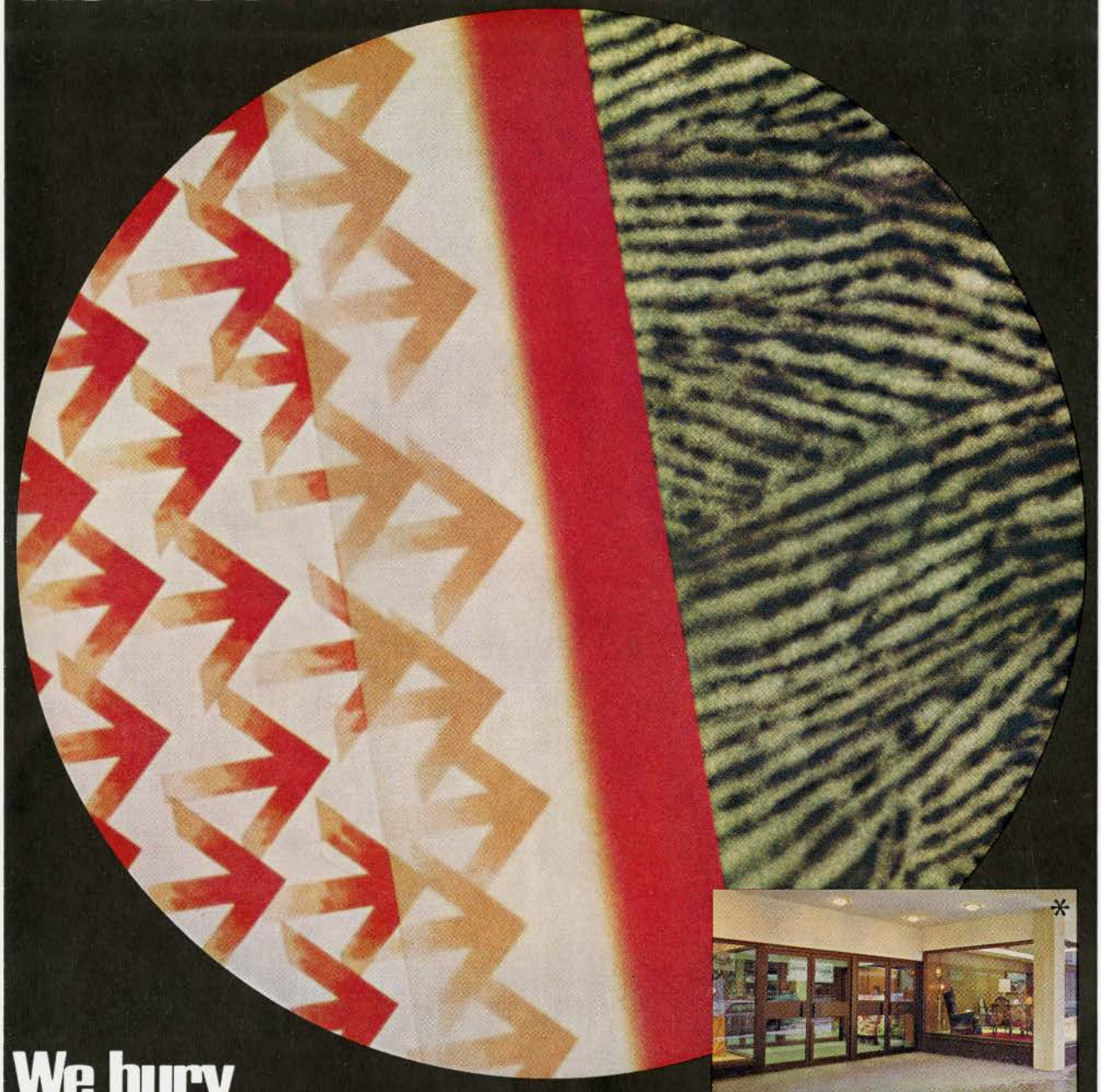

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Résumés

Page 46

Les Quartiers d'aménagement urbain et la Réaction des Résidents

James Lorimer et George Baird

L'idée simpliste de l'aménagement urbain comme opération sanitaire devient démodée non seulement chez les urbanistes mais surtout chez les citoyens affectés par une compensation insuffisante. Par conséquent, la formation d'associations politiques de résidents en a résulté, telle qu'au Don Vale, quartier de Toronto destiné à l'aménagement, où l'association a produit un important rapport détaillé proposant la réhabilitation résidentielle comme une technique d'aménagement urbain dont les résidents et la communauté seraient les bénéficiaires. Les conditions qui ont amené les urbanistes torontois à considérer la réhabilitation peuvent être trouvées dans la plupart des villes canadiennes. En prenant Don Vale comme exemple on trouve un quartier bourré d'une diversité de maisons du XIX° siècle en état plus ou moins médiocre dont les propriétaires (60%) ont des revenus modiques. Les urbanistes ont proposé l'expropriation des maisons les plus délabrées et la réhabilitation des autres. La réaction des résidents les a induit à établir un comité de 30 résidents pour étudier la réhabilitation. Le comité a formulé sa propre politique détaillée et praticable du point de vue technique et économique, une politique importante sur deux comptes: elle montre l'aptitude des résidents à faire face aux affaires trop souvent tenues en main par des spécialistes – leur rapport est l'étude la plus avancée de la réhabilitation au Canada; ce rapport propose une nouvelle méthode spécifique de financement qui paraît praticable du point de vue politique. Le comité recommande la mise en oeuvre d'aide financière publique effective pour la réhabilitation par propriétaires privés, sans laquelle aucun programme compréhensif peut réussir. Ce programme demande la rénovation d'un seul coup de tous les éléments et systèmes des maisons et un entretien ultérieur durant 20-25 ans. L'amélioration serait évidente ainsi que des meilleures conditions de vie, le tout conduisant à l'accroissement des travaux et services publics dans le quartier. Cette réhabilitation financée par les fonds publics est fondée sur le principe que l'aménagement urbain ne doit jamais mettre les résidents en danger financier, donc elle ne peut être effectuée sans que les autorités publiques souscrivent presque la totalité des travaux par des subventions de 80% et des prêts de 20% – pour les cas de grande nécessité, des subventions de 100% – pour les résidents faisant une part des travaux eux-mêmes, la subvention de 100% des matériaux employés. Afin de sauvegarder les loyers au niveau actuel et d'empêcher la spéculation sur les ventes, le comité a détaillé plusieurs recommendations pratiques, y compris un contrôle des loyers pendant 10 ans et la stabilisation des cotisations imposées avant la réhabilitation. Les normes ayant rapport aux aménagements intérieurs seraient volontaires. Quant aux maisons dont les frais de réhabilitation seraient très élevés, le comité suggère que l'autorité publique laisse au propriétaire le choix entre: vente à la ville, réhabilitation, ou construction d'une nouvelle maison équivalente, la différence de prix étant subventionnée, permettant ainsi la reconstruction des plus mauvaises maisons sans forcer les occupants à quitter le quartier. Quant à l'opposition à leur méthode, le Comité souligne que leur système suggéré est un échange pour des normes plus élevées qui ont été exigées dans d'autres quartiers aménagés récemment et qu'il a plus d'attrait politique que la démolition et reconstruction mal vues et plus chères – le coût total serait d'environ 1/10ème du coût des méthodes traditionelles. Ce rapport montre que des résultats concrets peuvent ressortir de la participation locale dans la formation de politiques d'aménagement urbain.

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L'Ordinateur et le Bureau moyen d'Architecte

Douglas Bailey, Stan Benjamin et Andrew Strauss

Beaucoup d'architectes ont du mal à distinguer entre l'application pratique de l'ordinateur à l'heure actuelle et ce qu'elle sera à l'avenir. Il s'agit surtout du petit bureau d'études qui n'a pas les moyens de l'expérimenter. Celui-ci doit se demander 1° s'il doit s'intéresser à l'ordonnance des données, 2° quelles sont les applications pratiques de l'ordinateur dans un petit bureau, 3° quel est le prix, 4° comment l'employer sans formation spéciale, 5° peut-on mettre à jour les méthodes et les machines?

L'ordonnance des données veut dire l'organisation des données sous quatre divisions: les données à organiser; les instructions pour cette organisation; les machines ordinatrices; les résultats. L'équipement s'emploie en deux activités: l'emmagasinage (matériaux, devis, personnel, clients, etc.,) et l'ordonnance (coût-contrôle et estimatif – comptabilité, MPC., études comparatives, présentations, etc.) Il faudrait d'abord consulter un expert qui recommendra les applications les plus pratiques en premier lieu. Un petit bureau n'a pas les moyens de s'offrir un ordinateur mais il pourrait soit 1° louer les services "partagés" d'un ordinateur, 2° se servir des facilités d'un service central, 3° sous-louer avec d'autres bureaux les services d'un ordinateur. 1° L'architecte peut louer un de plusieurs télautographes raccordés à un ordinateur central et il partage les frais, (entre $250-$300 par mois). Les avantages comprennent la connexion directe à l'ordinateur et les dépenses minimes, mais il y a aussi l'inconvénient du manque de familiarité avec le langage technique et les instructions spécialisées utiles aux architectes. L'emmagasinage d'information est donc très limité.
2° Le service central avec techniciens spécialisés offre les services d'un grand ordinateur sur la base "par-projet", ce qui économise les frais et les efforts mais qui a les mêmes inconvénients que 1.
3°. Cette méthode consiste en l'établissement de "centres de données" très spécialisés par des groupes de bureaux qui se partagent les frais de location, salaires et autres services. Ce système pourrait être pratique mais il n'est pas encore suffisamment exploité. Le prix serait de $300 à $500 par mois par bureau. La solution la plus réaliste serait de retenir une firme qui fournirait des programmeurs spécialisés en architecture et autres disciplines associées. Un groupe d'architectes pourrait facilement s'offrir ces services pour l'opération de son propre centre, au moins à mi-temps. Les fabricants d'ordinateurs fournissent un programme de formation dans le "langage" des ordinateurs.

Le problème de mise à jour des données enregistrées suivant les besoins de l'usager est plus difficile à resoudre. Le développement de programmes individuels coûte cher – il faudrait un système "universel" d'administration des données comme structure de base sur laquelle des diverses séries d'instructions pourrait être développée, ce qui représente une innovation majeure. D'autres innovations utiles comprennent les tubes IBM du type télévision avec stylo lumineux pour présentations, plans, diagrammes et les traceurs graphiques américains et allemands. En général, un bon système graphique coûte trop cher et parait impraticable pour un petit bureau. Si un groupe d'architectes pourrait se réunir pour établir un "centre spécialisé" de données, les problèmes de frais et de personnel pourraient être résolus.

Page 57
Soumissions et Marchés – 4ème partie
J. V. Fitzgerald, MCIQS, CET, ARSH
Le point de vue de l'entrepreneur général est discuté. *Les manques de communication* sont responsables du plus grand gaspillage commercial d'aujourd'hui. "Essayons de voir objectivement l'autre point de vue avant de décider de notre propre attitude." Les méthodes de soumissions dans la construction peuvent être énormément améliorées. Tout entrepreneur doit développer une bonne politique de soumissions en tenant compte de plusieurs facteurs tels que: le genre de travaux préféré par la compagnie – un projet différent des opérations habituelles augmente automatiquement le facteur du risque; les talents et capacités de l'équipe ayant un rapport; la compétence d'une organisation dépend de la compétence de ses employés. Le chef de projet et son équipe sur chantier ont un degré de responsabilité unique dans l'industrie – le chef de projet *est* la compagnie – donc un entrepreneur qui cherche d'abord le projet et ensuite l'équipe administrative prend des risques énormes. Autre facteur – un système de reportage des travaux constamment mis à jour concernant le pays, la province et la région locale, y compris les projets éventuels pour que l'administration puisse considérer tout le champ économique et par conséquent choisir en avance les projets les plus intéressants par rapport à ses ressources et éviter le déploiement d'hommes, d'équipement et de finances en projets peu profitables. Egalement, un entrepreneur d'expérience devrait toujours pouvoir compter sur l'avis de ses comptables quant aux possibilités de financement d'un certain projet. La réputation du propriétaire d'un immeuble projeté compte beaucoup lorsqu'il s'agit de déterminer s'il est un bon client, ou un client à éviter.
Et l'architecte – est-ce que son expérience et son personnel arrivent à produire à temps les plans et dessins nécessaires? Et son équipe de chantier? Aucun contrat existe entre l'entrepreneur et l'architecte; si l'entrepreneur perd de l'argent à cause de l'incompétence de l'architecte, son seul recours est le client et la réputation de l'architecte en souffre. La méthode de soumission employée par l'architecte est également importante. Le client a le droit de considérer des variantes avant d'accepter un marché. Au contraire, l'entrepreneur et les sous-traitants font de leur mieux pour soumettre des prix en l'esprit de concurrence et pour cela ils devraient être permis de soumettre des variantes ou prix unitaires spécialisés après l'acceptation des soumissions afin de pouvoir les considérer plutôt que de les deviner. Autre considération – les aptitudes et le calibre des estimateurs – le contrôle de volume d'estimatifs est impératif. En général, l'entrepreneur comprend très mal la fonction de l'estimatif et l'importance des estimateurs. Quant aux méthodes d'études et à la programmation d'une soumission, bien des entrepreneurs ne savent pas les exploiter. La part des sous-traitants peut atteindre 85% d'un estimatif et si un sous-traitant se trouve en défaut, la responsabilité reste entièrement avec l'entrepreneur général – donc ce dernier doit s'informer sur la réputation de chacun des sous-traitants. L'évaluation du profit peut décider le succès d'une soumission; les soumissions mal calculées peuvent être responsables des banqueroutes trop fréquentes. Un entrepreneur établi peut exprimer ses frais en pourcentage de la valeur-dollar d'un projet achevé. Il faudrait aussi considérer les éventualités imprévues d'une grève, etc., en soumettant un marché. La considération de compensation adéquate est compliquée par d'autres facteurs, dont le temps et le nombre de personnel administratifs et surveillants requis sont les plus importants. La compétition doit être évaluée aussi par rapport aux spécialités de l'entrepreneur pour qu'il puisse choisir le projet le mieux adapté à sa compagnie.

Page 65
Le Condominium et sa Portée
K. A. Finlayson, B.Arch (Capetown)
L'urbanisation au Canada et la hausse des prix du terrain ont poussé les développeurs d'habitations à la construction verticale. L'affaiblissement économique et social provoqué par les logements insuffisants et le déclin urbain qui en résulte vont s'accroître certainement à moins que des mesures préventives et de réhabilitation soient considérablement augmentées et améliorées. Ceci augmenterait la nécessité de construire des logements à prix modique favorisant ainsi le Condominium. Le Condominium est la possession en commun d'une propriété par deux personnes ou plus dans laquelle chacun possède un intérêt absolu et inséparable. Les deux éléments essentiels du concept sont: la division de la propriété en unités possédées individuellement et en éléments communautaires; une administration permettant la gérance par les propriétaires. Un citoyen est propriétaire d'une unité qui fait partie d'un développement de logements multiples, soit une maison en rangée, "Town House" à étages multiples, ou appartement "high-rise". Il gagne une part *résiduelle* dans le terrain et des parts conjointes dans les facilités tenues en commun. La demande existe; les raisons – le coût élevé des terrains et l'attrait d'être maître chez soi.

Le premier diagramme montre la formation d'un condominium en commençant avec le développeur (propriétaire du terrain) et finissant avec l'Acte de Condominium, dont une exigence absolue est que le terrain soit acheté en toute propriété. Le terrain est divisé en unités et en éléments communs par *la description* et repéré par une borne. Cette description peut être établie par la méthode Plat de sous-division; le relevé des apartements (2ème diagramme); ou par l'arpentage du terrain avec emplacement de l'immeuble, plans, dimensions, élévations et garanti de l'architecte. A l'achat d'une unité, l'individu partage les éléments communs avec les autres propriétaires, la proportion des parts étant spécifiée dans la Déclaration. Les détails d'administration sont spécifiés dans les statuts, qui peuvent être modifiés seulement par vote de 66⅔ % des propriétaires des éléments en commun. Une compagnie est constituée automatiquement qui est responsable de l'entretien de ces éléments et des réparations. La dissolution est possible lorsqu'apres détérioration de l'immeuble un vote pour les réparations obtient moins de 80% des voix.

Quelles sont les différences entre un Comdominium et une Coopérative? L'entretien et les heurts entre voisins sont deux problèmes en commun. Dans une Coopérative le titre en toute propriété est dévolu à une société à responsabilité limiteé, l'occupant tient des parts et occupe un appartement sous bail. Le premier versement est flexible pour un Condominium (où on peut avoir une hypothèque individuelle et l'opportunité de la réduire selon ses possibilités), mais pour une Coopérative, le premier versement est fixé, l'hypothèque est générale et on n'a pas le droit de réduire sa part. Le propriétaire d'un appartement en Condominium a la même sécurité qu'un propriétaire de maison dont la propriété monterait en valeur, un fait tendant à faciliter la revente.

Le Condominium répondra-t-il à une demande commerciale spécifique et s'ajoutera-t'il aux concepts de dessin de l'architecte?

Les réponses dépendent des facteurs économiques et dans sa soumission l'architecte doit distinguer nettement l'espace par unité et l'espace communal. Le Condominium pourrait fournir à l'architecte une diversité en dessin – au fur et à mesure que les facteurs économiques rendent possible sa construction. L'architecte, l'urbaniste et le développeur devront trouver l'occasion de participer dans le développement du Condominium comme une solution au problème du manque actuel de logements à prix modique.

R. Hassell
Studio-Residence
West Vancouver, B.C.

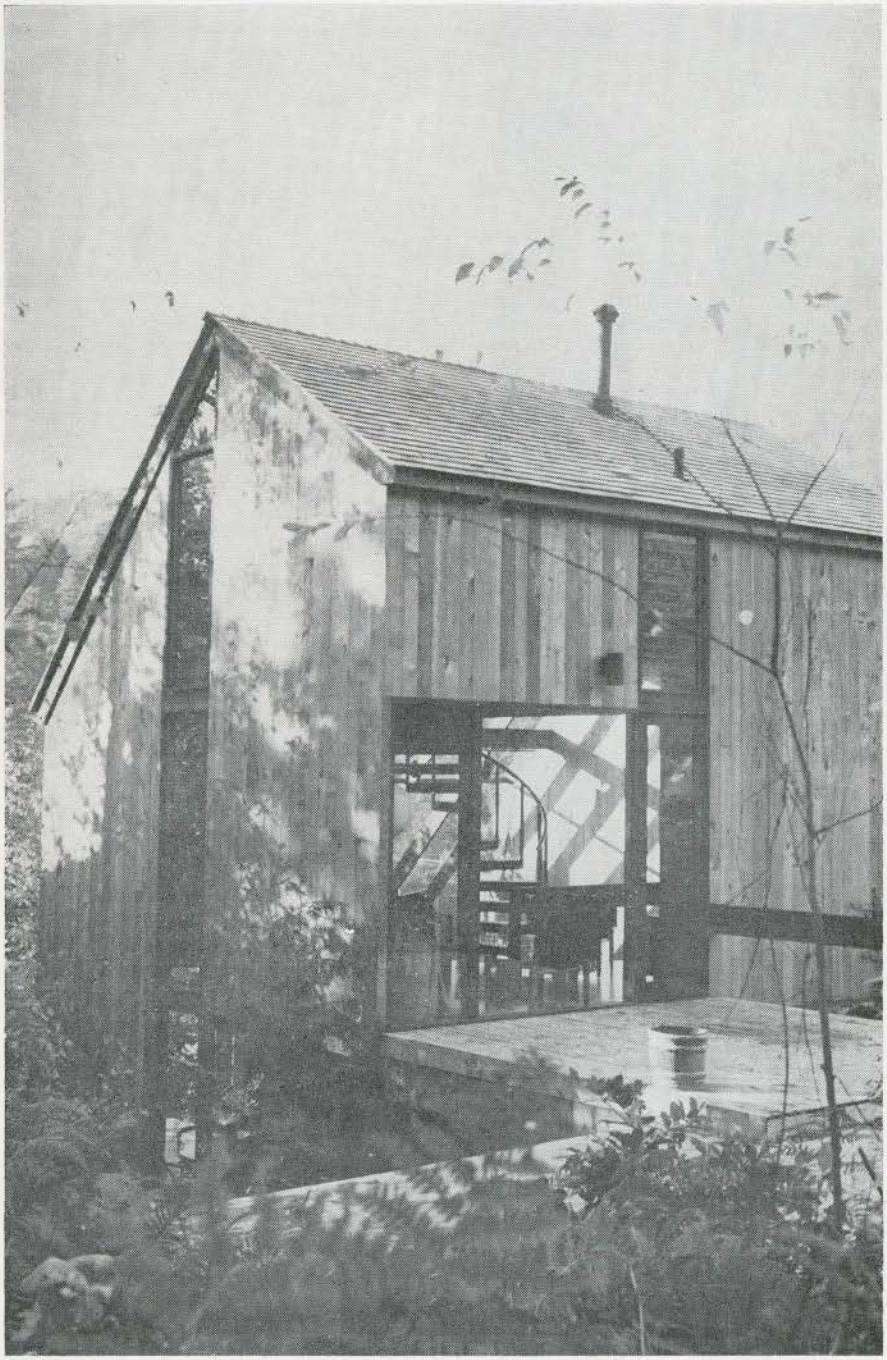
Designed by Robert Hassell

Pullan

Dining room
Salle à manger

2
View from grade at second floor rear toward sun deck and living room
Vue de la pente arrière au deuxième étage sur la dalle et le salon

3
Studio viewed from dining room
Studio vu du salon
4
Section through studio and skylight
Coupe à travers studio et ouverture



Pullan

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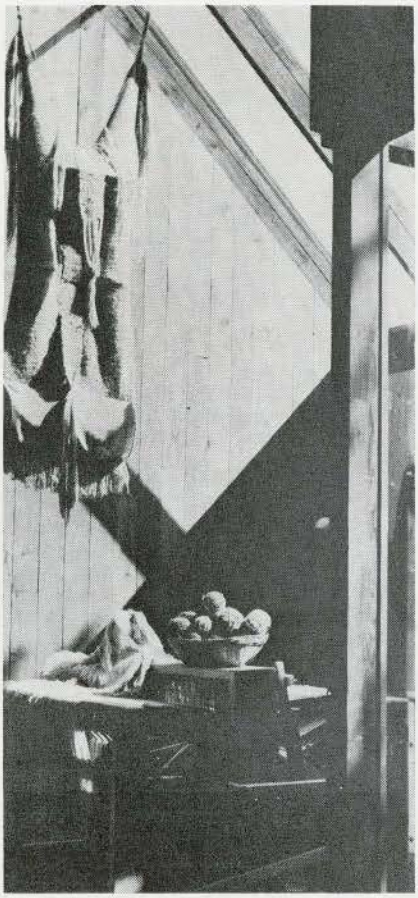
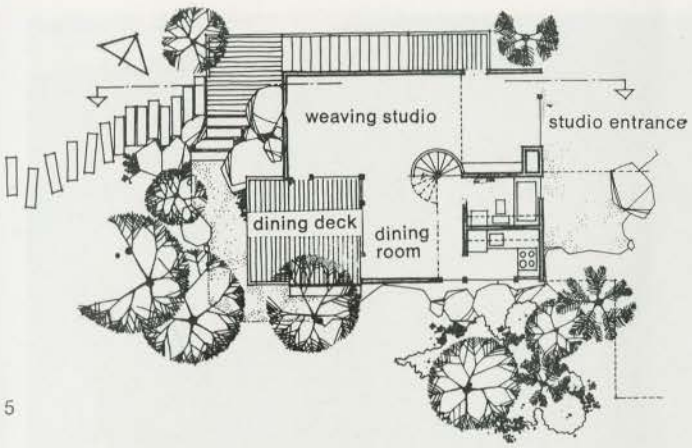


Pullan

3

4

5
Main floor plan
Plan du rez-de-chaussée
6
Second floor plan
Plan du deuxième étage
7
Third floor plan, loft
Plan au niveau du troisième étage



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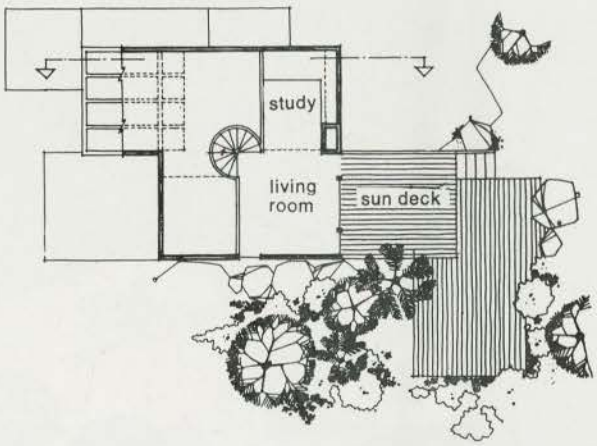

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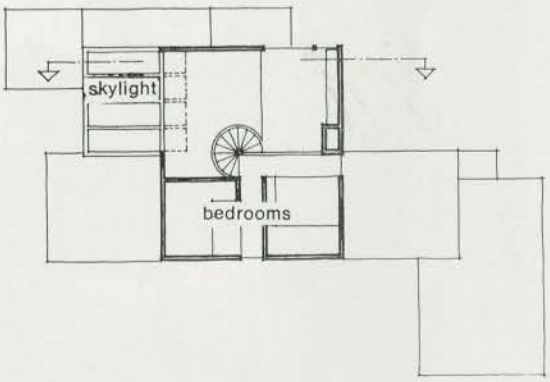


7

8
View from studio towards dining and living rooms
Vue du studio sur salle à manger et salle de séjour

Pullan

8

9
View from third floor loft to study and studio
Vue du troisième étage sur étude et studio

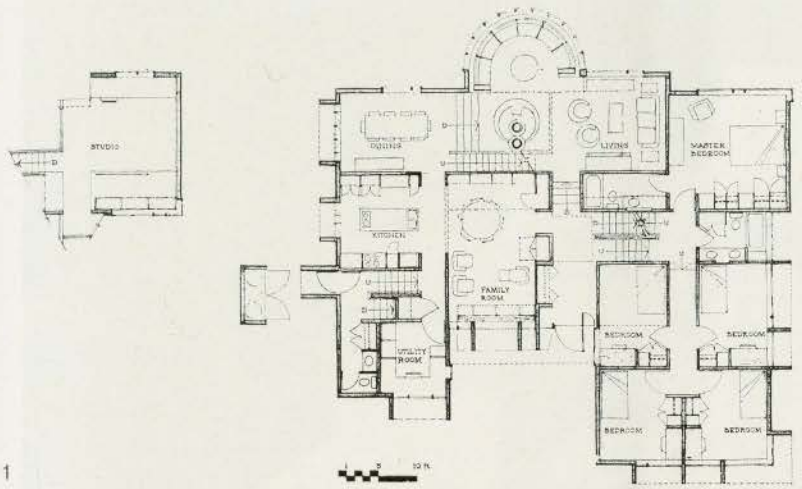
Pullan

9

Gaboury Residence
River Road
St Vital, Manitoba

Architect, Etienne Gaboury

1
Main floor plan
Plan du rez-de-chaussée
2
Basement floor plan
Plan de la cave
3
Site plan
Plan d'emplacement



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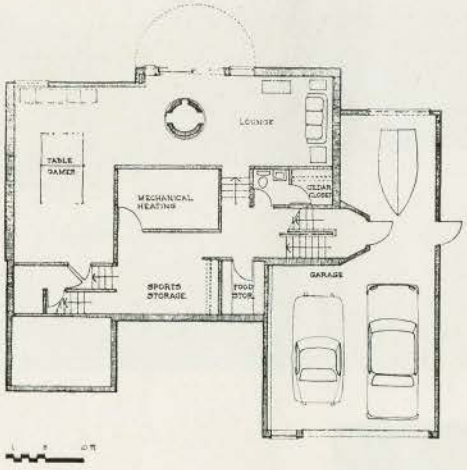

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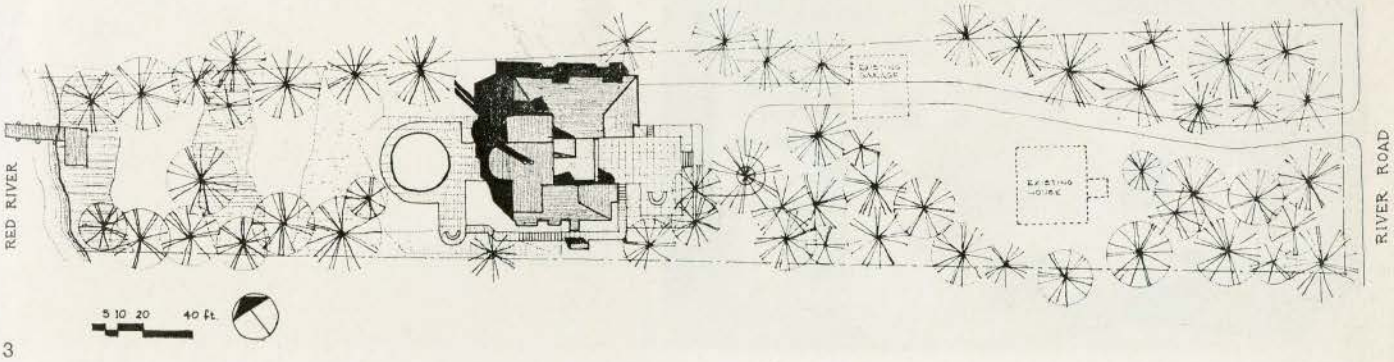
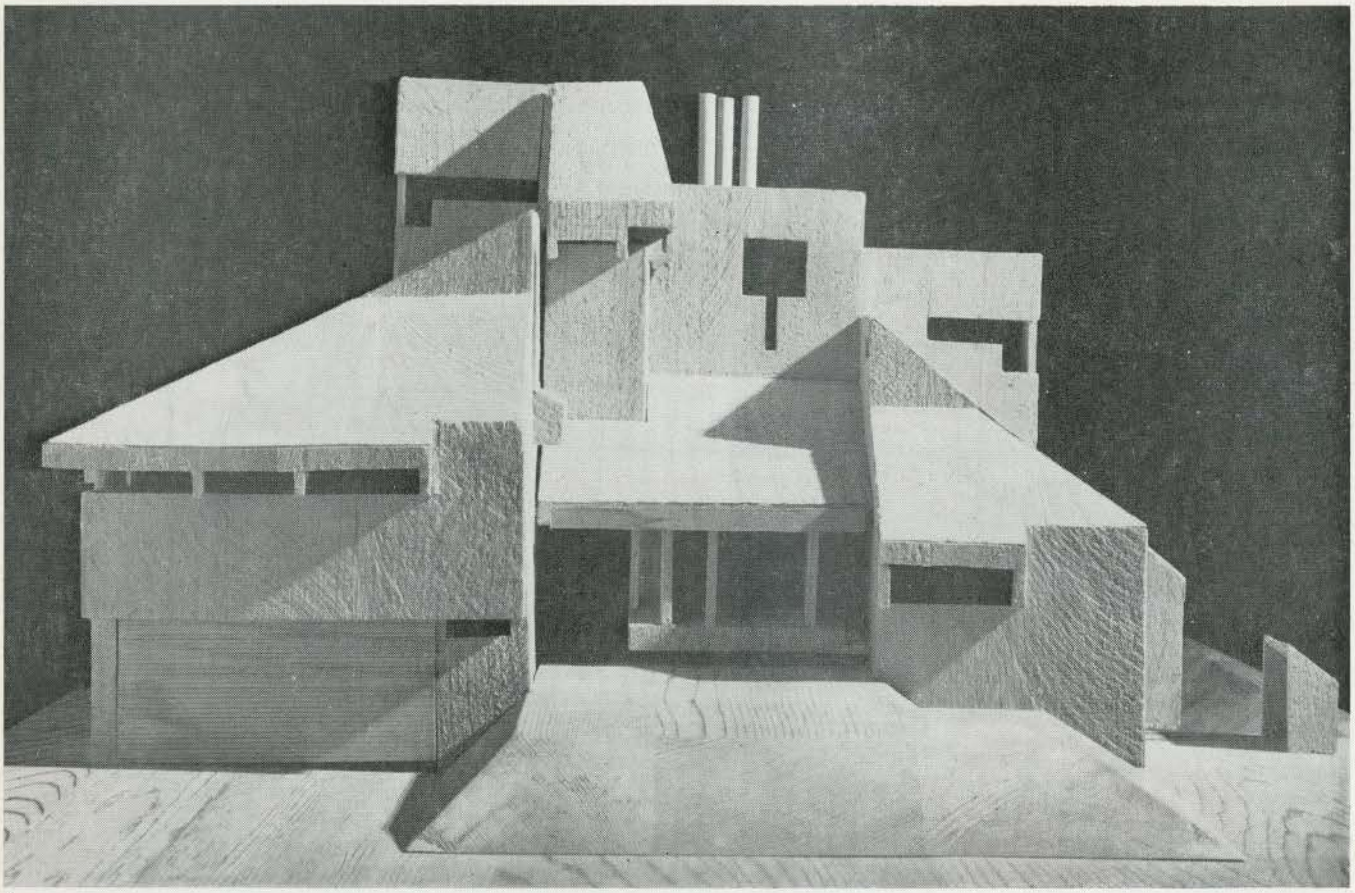


3

4, 5
Model
Maquette



Kalen

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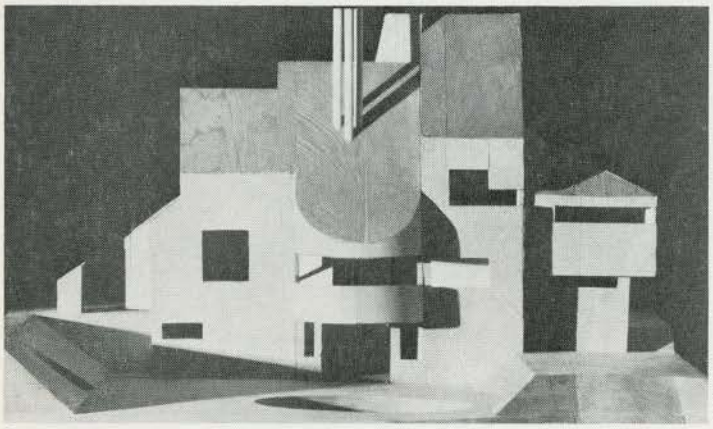


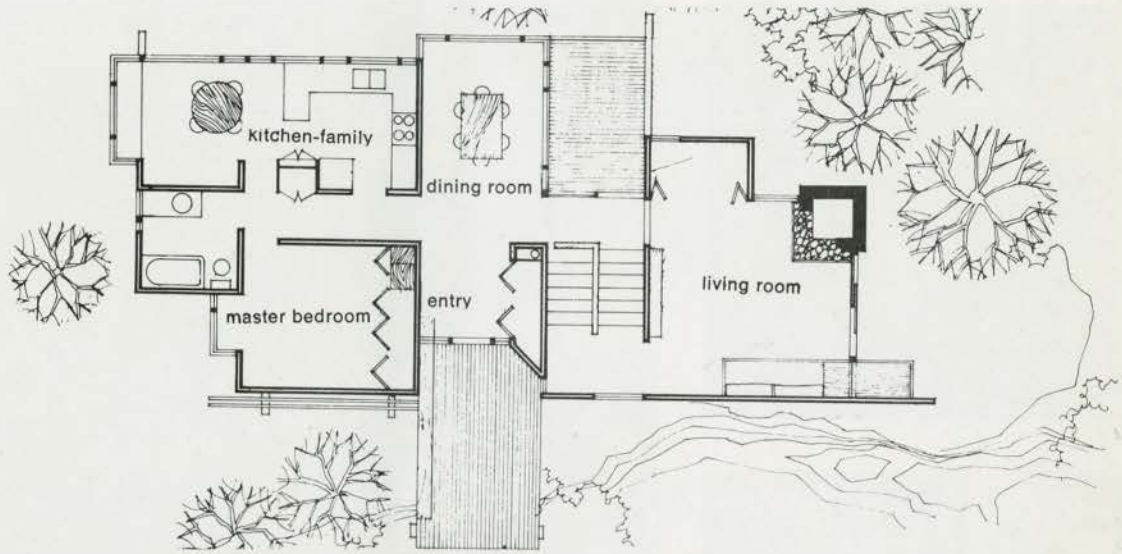
Kalen

5

Hugh Smith Residence
West Vancouver, B.C.

1
Main floor
Rez-de-chaussée
2
Second floor
Deuxième étage
3
Section
Coupe

Architect, Barry V. Downs



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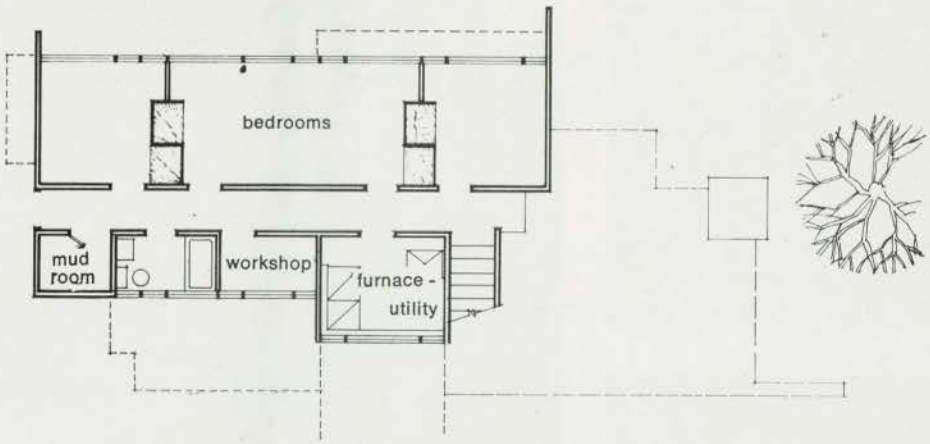

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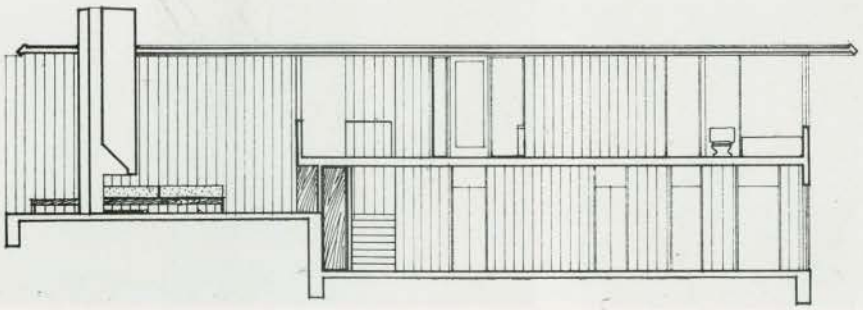


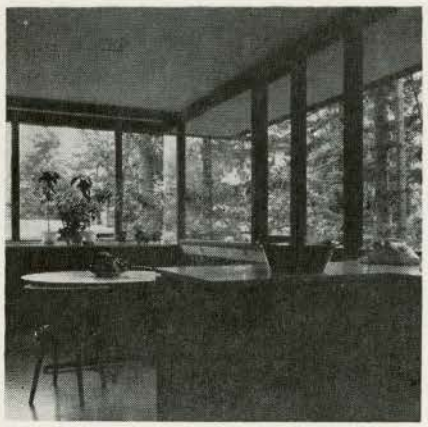
3

4, 5
Exterior
L'extérieur
6
Kitchen-family room
Cuisine-salle de séjour

7
Exterior
L'extérieur

4

5



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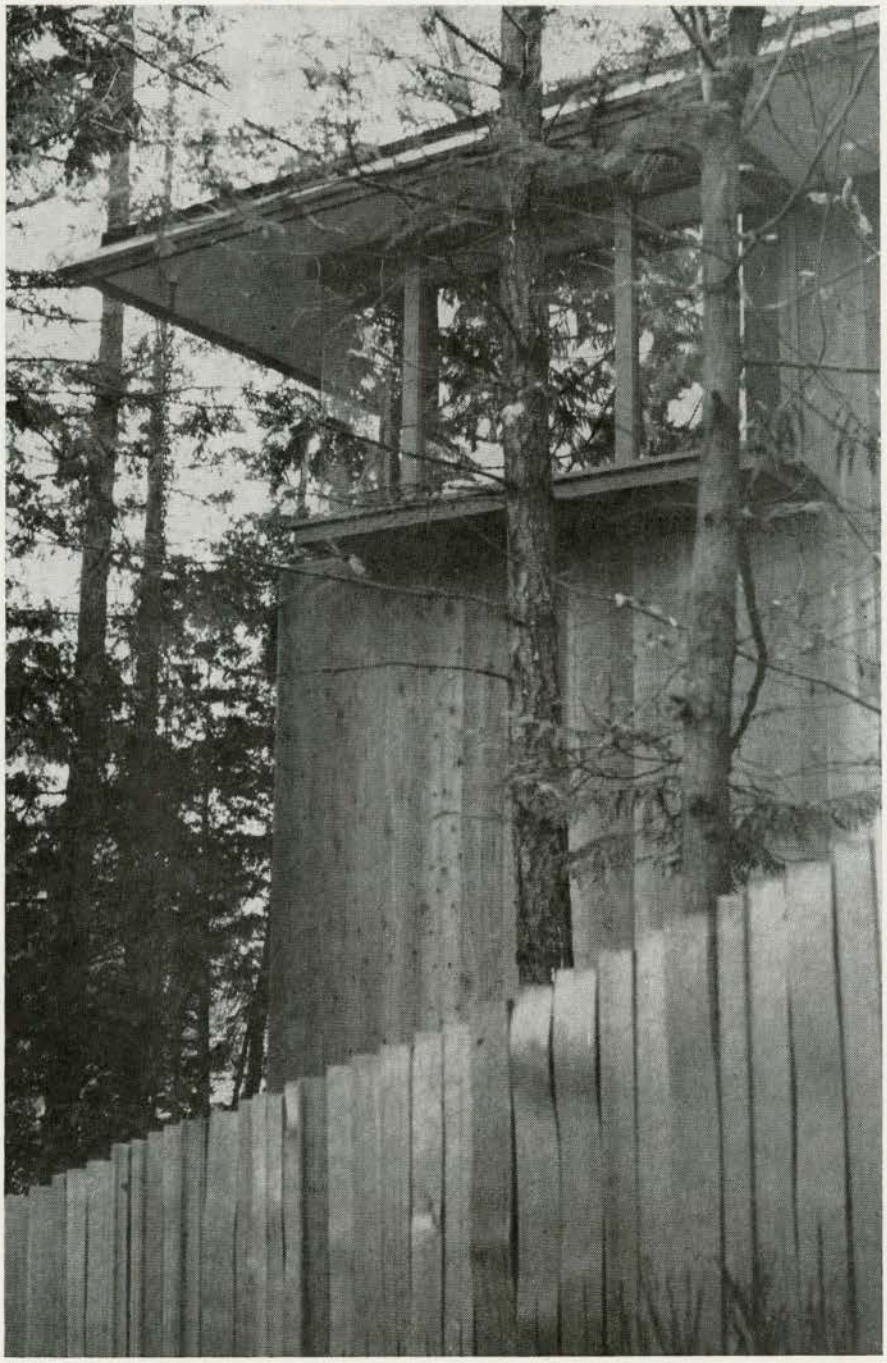

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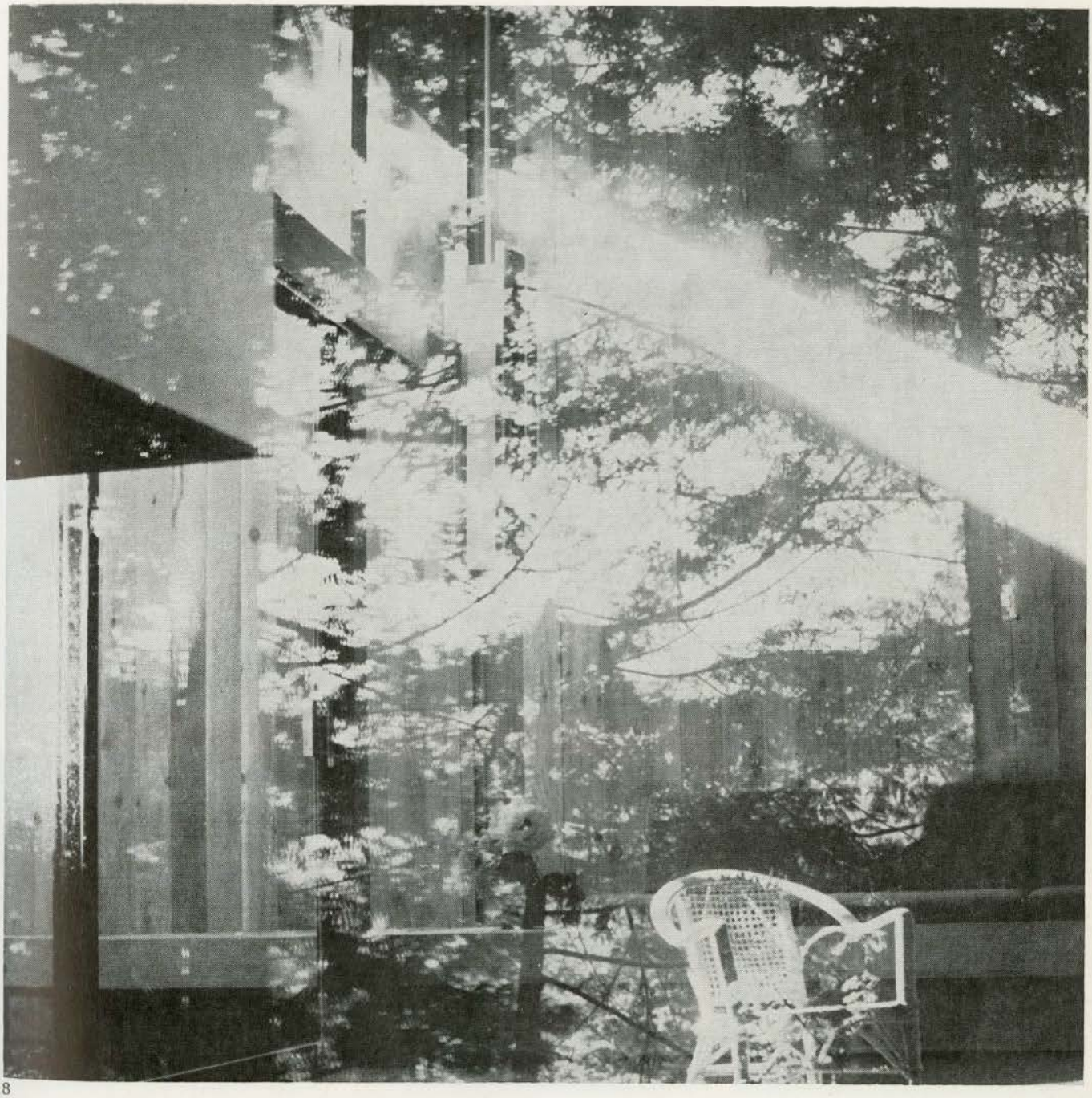
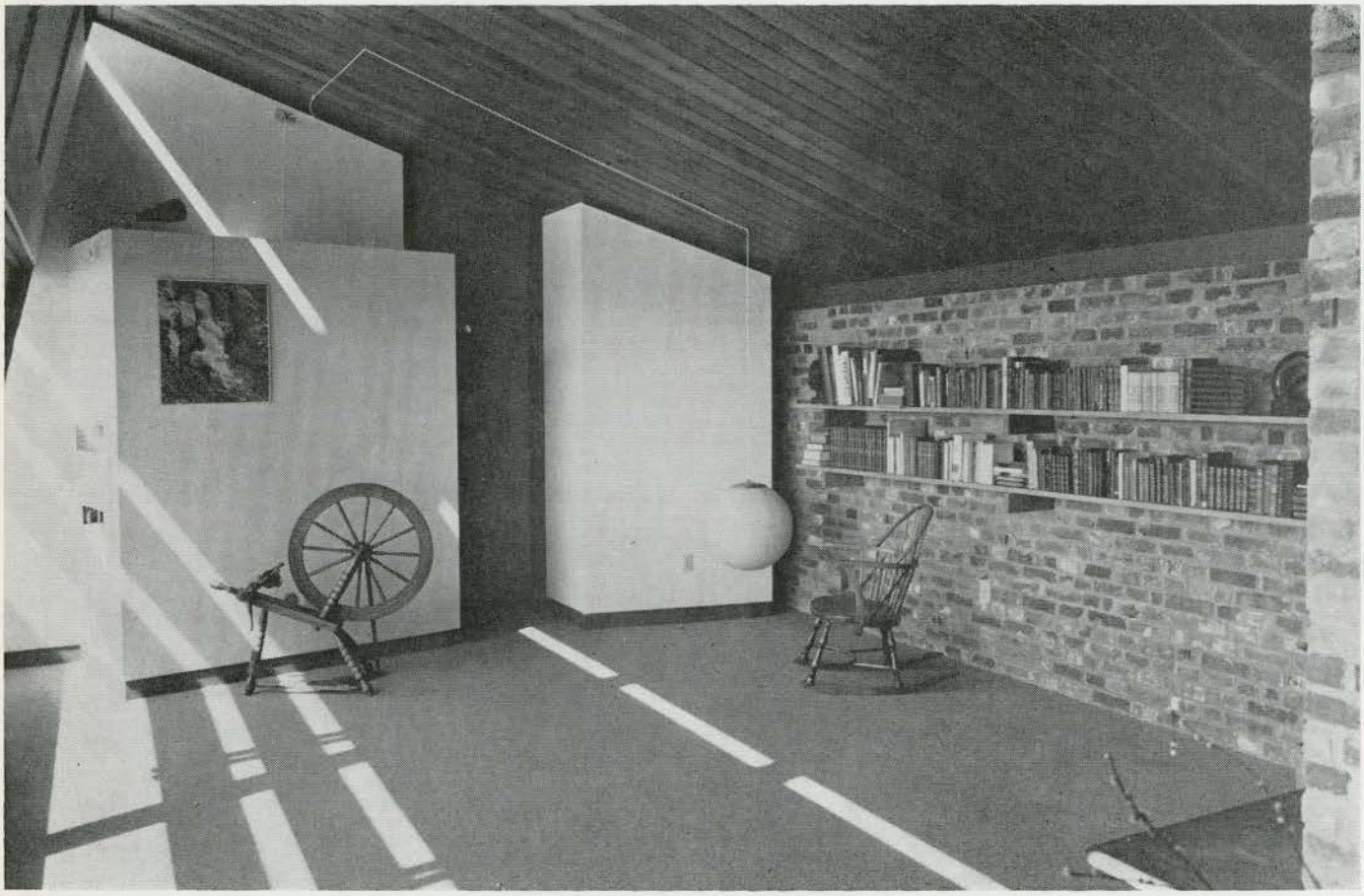
8
Living room
Salon



8

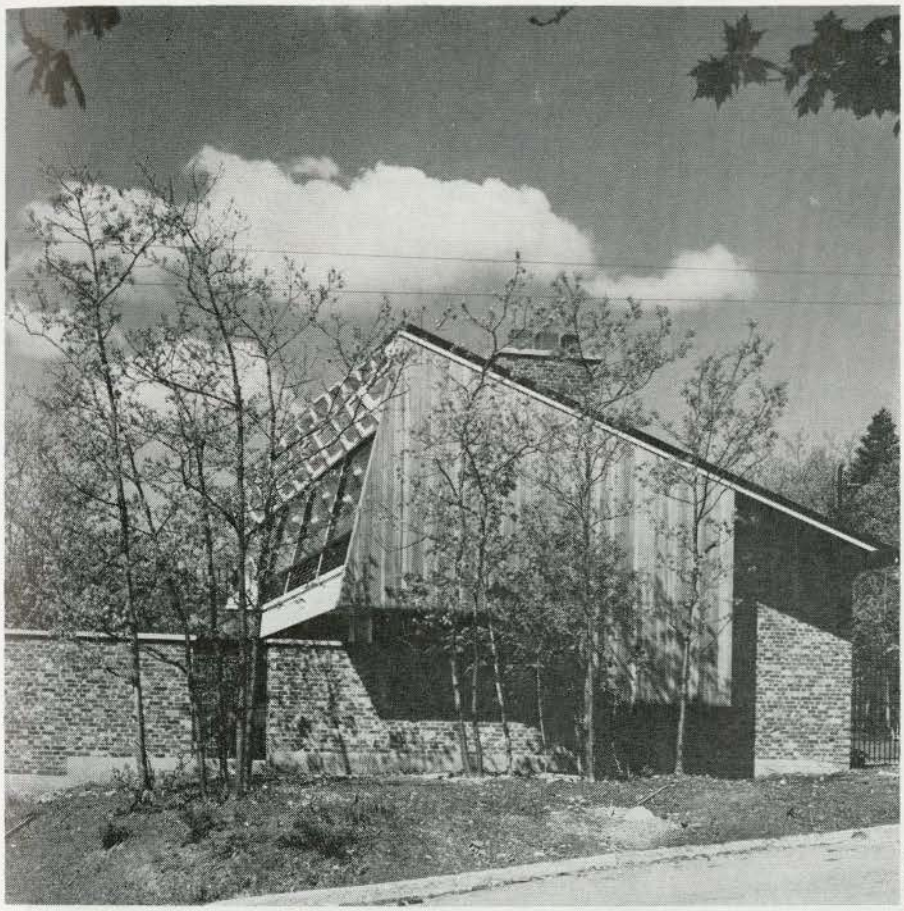
Résidence Gilles Bergeron Sainte-Foy, Québec

Architecte, Jean-Marie Roy



Eiefsen

Coupe
Section



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Ellefsen

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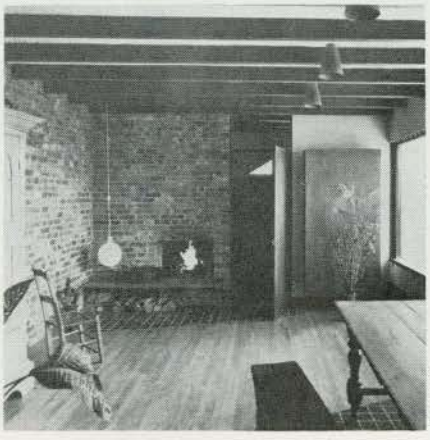
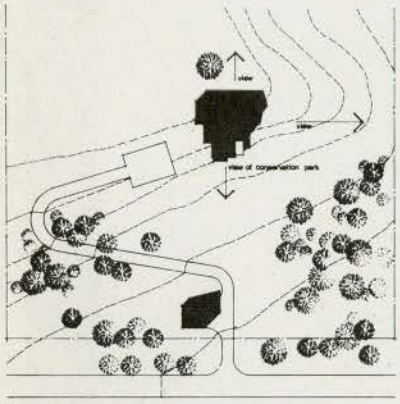


Ellefsen

Currie Residence
RR #2 Claremont, Ontario

1
Site plan
Plan d'emplacement
2
Exterior
L'extérieur

Architect, Jerome Markson



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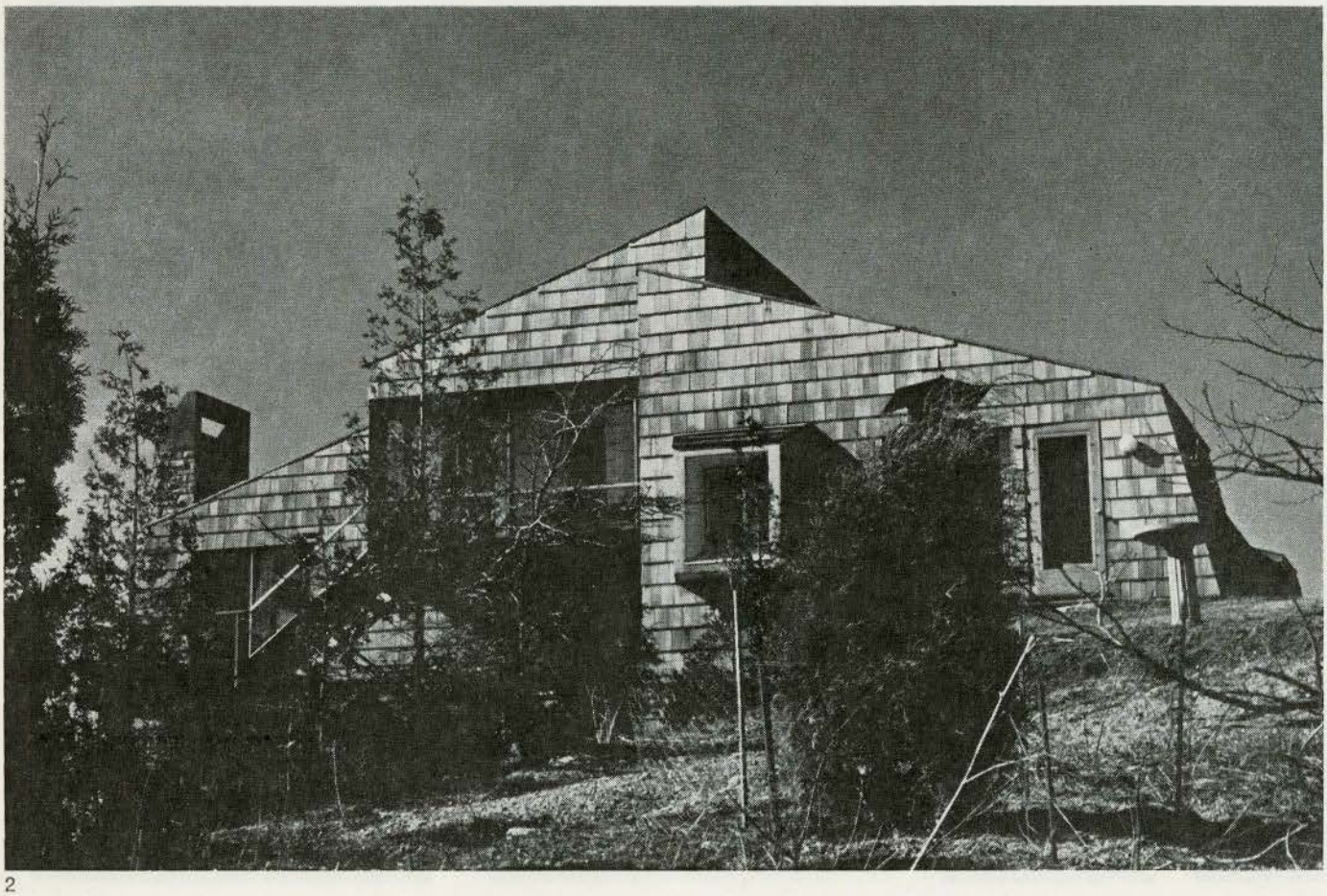


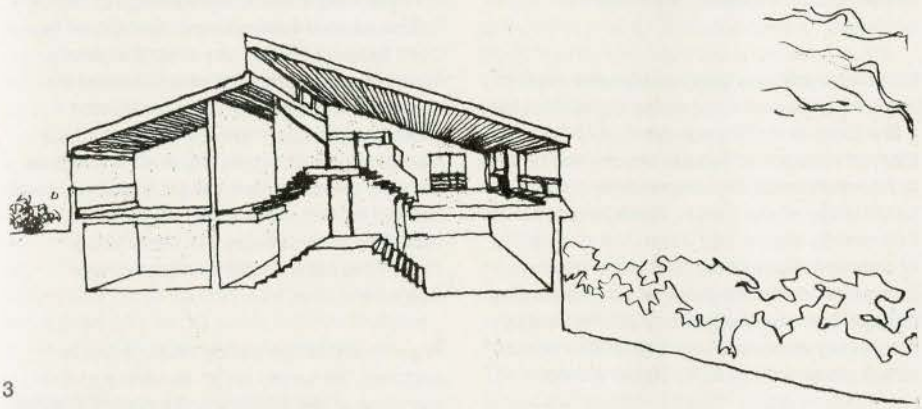
Fabierkiewicz

2

3
Section
Coupe
4
Upper level plan
Plan du niveau supérieur

5
Lower level plan
Plan du niveau intérieur

6, 7
Exterior
L'extérieur



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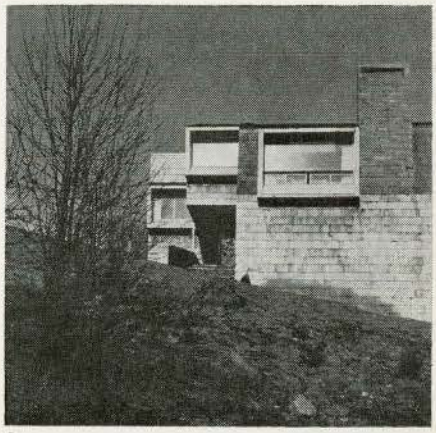

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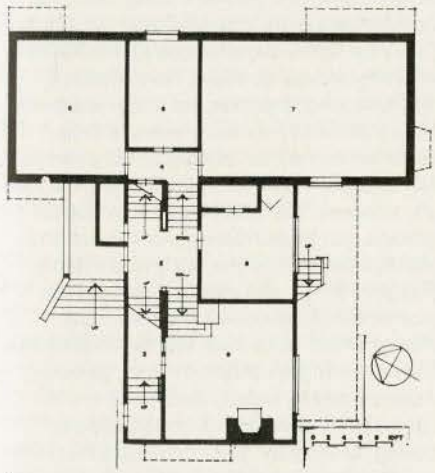

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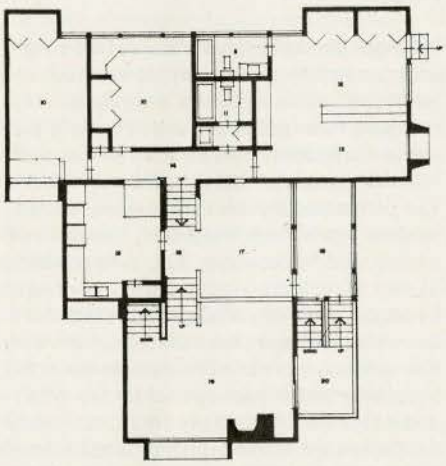

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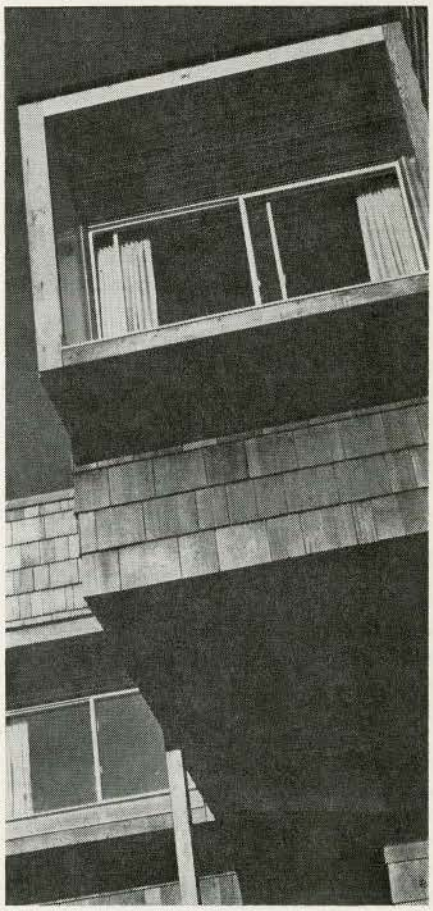

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Ask the people who live there what to do with your urban renewal area, and they'll tell you

James Lorimer and George Baird

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This article discusses a booklet on rehabilitation by the Ward 2 Residents' Assn.

The simplistic idea of urban renewal as a large-scale sanitary operation – which produced Regent Park North in Toronto – is becoming unfashionable in architectural and planning circles. Even so, the experts' dissatisfaction with conventional renewal techniques is small compared to that of many residents in the areas concerned. Generally speaking, the only residents to show any enthusiasm for renewal are those who want public housing accommodation. The others see it as a threat, especially where (*eg* Toronto) expropriation compensation has not been sufficient to allow people to re-establish themselves in comparable, not to mention improved, accommodation.

An unexpected, but desirable result of some recent renewal proposals has been the formation by residents of reasonably effective political organizations. For instance, Toronto's "Don Vale" urban renewal area, a residents' association was formed just at the time when the city's planners were beginning to think of conservation and rehabilitation as an alternative to the clearance and rebuilding technique. Out of these circumstances has come a novel result: a substantial, detailed report by a committee of the local residents' association which discusses residential rehabilitation as an urban renewal technique. It outlines a practical proposal for a kind of rehabilitation which would benefit the present residents of the area as well as the community as a whole.

The conditions which prompted Toronto's planners to consider rehabilitation can be found in most Canadian cities. Don Vale was constructed mostly during the late nineteenth century; it includes detached, semi-detached and row houses of brick, frame, and brick-and-frame construction. The average house has six rooms, but there are a number of larger houses which contain several dwelling units, for one family plus boarders. Most of the residents are Anglo-Saxon working people, but there are a few from other ethnic groups and classes. Incomes are relatively low; the 1961 Census showed an average family income of $4,000. About 60% of the houses are owner-occupied.

Building condition surveys showed most of the area's houses to be in fair condition, but a few to be in quite poor condition. The planners proposed to expropriate the houses in poorest condition, and recommended rehabilitation of the others. Residents were at first mainly concerned about the possibility of expropriation. Later they became more interested in the planners rehabilitation proposals, especially when city officials began producing estimates of rehabilitation costs which ranged up to $12,000 per house.

Residents Outline Own Rehabilitation Policy

In response, the residents' association set up a committee of local people to study rehabilitation. Its members were the 30 residents most politically active in the area; about 15 regularly attended the formal, and informal meetings held over four months. The committee included tradesmen, skilled workers, construction workers, professional people, and housewives; long-term residents as well as recently-arrived ones. They began by studying the city's proposed rehabilitation standards and cost estimates; from their discussions, sophisticated awareness of the program's actual implications for the area and its residents gradually emerged. Finally the Committee worked out a detailed rehabilitation policy of its own, which it considered feasible both technically and financially.

The Committee's report is important for two reasons. First, it shows the ability of local people to come to grips in an imaginative and effective way with matters which are too often held to fall exclusively within the competence of specialized experts. In the comprehensive detail of its analysis and recommendations, the residents' report is the most advanced study of rehabilitation that has been produced in Canada. Second, the report proposes a specific method of financing residential rehabilitation in older urban areas which is new and which seems politically workable. The National Housing Act now mentions conservation and rehabilitation as an urban renewal technique, but does not provide for any effective public financial assistance for rehabilitation by private home-owners. The Committee recommends the implementation of such assistance on the grounds that no comprehensive rehabilitation program can succeed without it. And, obviously, what is true of Don Vale in this respect is likely to be true of the older urban areas in other Canadian cities.

Any rehabilitation policy must, if it is to succeed, be based on an accurate understanding of the present condition of a renewal area, and of its residents' current maintenance and improvement practices. The Committee's work indicated that the average Don Vale home-owner keeps up his house on a pay-as-you-go basis. He maintains, replaces, and improves the major elements and systems of his house one at a time, either when they fail altogether or when he can afford to make an improvement. He usually finances this out of income or current savings, not by borrowing. As a result, the average house has one fairly new system (say plumbing), one middle-aged system (say heating), and one old system (say wiring) which is, or soon will be, inadequate. Only a few of Don Vale's houses, generally those owned by elderly people on low incomes or by speculators anticipating rezoning, are in such poor condition that they have high rehabilitation costs.

All-at-once Approach to Renovation

The kind of rehabilitation being proposed for Don Vale involves a pattern of work and financing quite different from this. It calls for an overall renovation of all the elements and systems of a house at one time, and a subsequent, purely routine maintenance pattern for, say, the next 20-25 years. Assuming a similar scale of expenditure during that time period, a comparison of the two patterns suggests that the all-at-once approach would entail better living conditions than the pay-as-you-go one during the first 10 of those 20 years, and poorer ones during the second 10.

The most important benefits of rehabilitation are not in its effect on internal living conditions; rather, they stem from the "neighborhood effect" of renovating an entire area at one time. This would yield a substantial visible improvement in the condition of the area's worst houses. It would also bring a major increase in the level of public works and services in the area. From the residents' point of view, this last benefit is most important. They realize how the standards of municipal services and works in older areas tend gradually to fall back relative to those in newer and higher-income areas.

Publicly Financed Rehabilitation Recommended

The report argues for publicly-financed rehabilitation in Don Vale as follows. First, it states the basic principle that urban renewal policies should never cause people financial harm. Then it argues that rehabilitation can proceed without causing harm to residents only if the public authorities virtually pay the total cost of the work involved.

The precise financial recommendations are that grants which cover 80% of the total cost of the work required by the rehabilitation standards for the area and low-interest loans which cover the remaining 20% be available by right to all owners, that in cases where these terms would cause financial hardship grants which cover the remaining 20% be available, and that home-owners who do some of the work themselves should receive 100% of the cost of the materials they use.

A simple, generous program of this sort clearly leads to certain problems regarding rent levels, and could provide opportunities for windfall gains by owners. The Committee recommends a number of safeguards to protect tenants and to eliminate windfalls. Owners who took public money to rehabilitate their homes and then sold them would have to pay back the entire grant and loan if this occured within five years of completing the work. Between five and ten years after, they would have to pay back a gradually reducing percentage. Only after ten years would they be able to sell without returning any of the money. Owner-occupiers who bought after the program was announced, but before the house they purchased was rehabilitated, should receive only 50% of the cost of the work required. This would help to prevent owners of unrehabilitated houses receiving premiums from buyers anticipating grants.

All owners accepting grants would be required to agree to charge controlled rents if any or all of their homes were let during the ten years following the completion of work. The controls would be based on rents in the area before rehabilitation and a cost-of-landlord's-living index.

Because assessment increases could seriously jeopardize the benefits of a financial assistance program, the Committee suggests that assessments not be increased to reflect the value of rehabilitation for ten years after completion of the program, and at a rate no greater than 5% per year after that. (See paper by K. A. Finlayson in Section 7, *Architecture Canada* for further discussion of this issue).

In the event that such financial provisions were made, the Committee suggests that there would be no difficulty in requiring owners to meet those rehabilitation standards used in the area which deal with external appearance, health, safety, and basic structure. Standards dealing with interior arrangements should, it recommends be voluntary.

The Committee developed a novel proposal to deal with the problem of houses with high rehabilitation costs. Instead of expropriating and erecting a public housing unit on the site as is now the practice, the Committee suggests that the public authority give each owner-occupier the choice of selling to the city, rehabilitating, or having the city build him a new house which provides at least the same area and facilities on his property. The difference between the appraised value of his former house and his new one would be treated as a rehabilitation grant, subject to the same conditions as those for existing houses. This proposal would make possible the rebuilding of the area's worst houses, without their occupants being forced out. It would also permit the continuance of the present pattern of private home ownership in the area.

Cost One Tenth as Much as Rebuilding

Anticipating objections on the grounds that it advocates paying people for repairing their own homes, the Committee points out that this benefit is an exchange for the enforcement in the area of housing standards higher than for non-rehabilitation areas in the rest of the city. It also suggests that this policy will prove more attractive politically than the expensive and unpopular alternative of public demolition and rebuilding. A rough estimate which the Committee based on city officials' estimates of rehabilitation costs suggests that the total cost to public authorities of the program advocated for Don Vale would be about 1/10th as much as the alternative orthodox procedure.

The Committee's report is primarily a discussion of the particular issues at stake in a particular area, issues which have arisen from current Canadian urban renewal policies. By careful, detailed discussion it shows how residential conservation and rehabilitation could be made a workable policy. Beyond that, it suggests the need for similar treatment of other important issues such as the criteria to be used to determine when expropriation is necessary, the appropriate balance between public and private initiative in renewal, the desirability of public housing as a replacement for old, privately-owned homes, etc. In our view, the report shows that concrete results follow from local participation in renewal policy formulation; at one stroke, it raises the level of public debate on renewal in Canada.

Copies of the booklet Rehabilitation: Outline for a Policy *are available for $1 from the Ward Two Residents' Association, 29 Hillcrest Park, Toronto 5.* □

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REFLECTIVE GLAZING UNITS

by D. G. Stephenson

UDC 697.13:69.028.2

The heat that enters or leaves a building through each square foot of window is usually several times larger than that through a similar area of opaque wall. It is important, therefore, that a building designer give careful consideration to the size, position, and type of window he will use. Several ways of controlling solar heat gain through windows were discussed in CBD 39; and CBD 52 dealt with heat transfer through a window by convection, conduction, and long-wave radiation. Since these Digests were prepared much work has been done in developing reflective glazing units with improved heat control characteristics. As these units are now marketed by several manufacturers, it seems timely to bring the previous discussions up to date, and to show how the new types of units compare with types that have been in use for many years.

Like walls, windows have to serve as separators between the uncontrolled outside environment and the controlled environment inside a building; but unlike walls, windows must also transmit light. Any objective comparison of different types of windows has to be related, therefore, to how well or how poorly the windows fulfil these roles.

One of the most important aspects of the window's role as an environmental separator is its heat gain and heat loss characteristic. The heat exchange between inside air and outside air is characterized by the over-all thermal conductance or U-value for the window; and the propensity to admit solar heat is given in quantitative terms by the shading coefficient. The thermal performance of windows can be compared, therefore, in terms of these two indices. The light transmission characteristic is given by the value of light transmittance.

U-Value

The U-value is the rate at which heat is transferred through one square foot of window when there is a difference of one degree between the air temperature outside and the air temperature inside a building. Stated another way, it is the reciprocal of the total thermal resistance between inside and outside air. A sheet of glass, by itself, has a resistance of only 0.02 units*; and almost the whole resistance of a single-glazed window is provided by the boundary layers at the inside and outside surfaces. For ordinary uncoated glass surfaces these resistances are about 0.7 units at the inside surface and 0.3 units at the outside. A low emissivity coating on either of these surfaces increases the resistance for the coated surface.

With double glazing there is an additional resistance provided by the air space between the panes. The value of this resistance depends on the nature of the surfaces that enclose the air space, the temperature of the air in the space, and the thickness of the space. A half-inch thick air space bounded by ordinary uncoated glass has a resistance of about 0.7 units for summer conditions and about 0.9 units at the lower temperatures that occur in winter. When one of the glass surfaces that enclose the air space has a low emissivity coating such as a thin layer of gold or aluminum, the resistance of a half-inch air space is more than doubled, making the double glazing equivalent to triple glazing with uncoated glass. Coating both surfaces facing the air space is only slightly better than having a coating on only one of the surfaces. The increase in the total thermal resistance of a window is an important benefit arising from the use of reflective coatings on glass; the primary reason for using a coating, however, is to reduce the solar heat gain.

Shading Coefficient

The total solar heat gain through a window is the sum of the transmitted solar radiation plus that portion of the absorbed solar energy dissipated to the inside of the building. The shading coefficient for a window is the ratio of the total solar heat gain through it to the total solar heat gain through a standard sheet of clear

*the unit of thermal resistance is ft²hr°F/Btu, i.e. degrees for 1 Btu per hour through 1 square foot.

TABLE I

SHADING COEFFICIENTS AND U-VALUES FOR SOME SINGLE- AND DOUBLE-GLAZING UNITS

Type of Window and Shading	Transmittance without Shades		Shading Coefficient				U-Values Btu/ft²hr°F	
	Light	Solar Heat	No Shade	With Curtain Min	With Curtain Max	With Venetian Blind	No Shade	With Curtain or Blind
Single Glazing								
⅛″ Clear Sheet Glass	0.90	0.80	1.00	0.45	0.65	0.55	1.0	0.8
¼″ Regular Plate Glass	0.87	0.77	0.95	0.45	0.65	0.55	1.0	0.8
¼″ Heat Absorbing Plate Glass	0.50	0.45	0.70	0.40	0.50	0.47	1.0	0.8
Double Glazing								
¼″ Regular Plate ½″ Air Space ¼″ Regular Plate	0.77	0.60	0.83	0.40	0.60	0.50	0.6	0.5
¼″ Heat Absorbing Plate ½″ Air Space ¼″ Regular Plate	0.45	0.35	0.55	0.33	0.43	0.36	0.6	0.5
¼″ Regular Plate Reflective Film ½″ Air Space ¼″ Regular Plate	0.35	0.16	0.25				0.3	

glass under exactly the same conditions. Thus shading coefficients are dimensionless numbers that have values between zero and one. The smaller the value of the shading coefficient the better the window is at stopping the entry of solar heat.

Values of shading coefficient for three types of single glazing and three types of double glazing are given in Table I, along with the corresponding values of light transmittance, solar transmittance, and U-value. These show that the reflective type of glazing without blinds or curtains can have a lower shading coefficient than other types of double glazing combined with inside shades.

Heat Absorbing vs Heat Reflecting Windows

It was pointed out in CBD 60 that glass is not uniformly transparent to all wavelengths, and that by a judicious choice of ingredients a glass can be produced that is markedly more transparent to the visible than to the infra-red. This type of glass is commonly called heat absorbing. A pane of ordinary plate glass that has a thin film of gold (or some other metal) on one surface is also more transparent to the visible than to the infra-red, but because it acts as a semi-transparent mirror this type is called heat reflecting glass.

Figure 1 shows the proportions of incident solar radiation that are transmitted, reflected, and absorbed by typical double-glazing units of the absorbing and reflecting type. The lower total admission of the reflective type unit is mainly due to lower solar transmission. When the reflective coating is on the inside surface of the outer pane, that pane absorbs almost as much as if it were heat absorbing glass, but the transmission is reduced because of the higher reflection. The total admission is also reduced because less of the energy absorbed by the outer pane of the reflective unit is transferred to the room. This is a direct consequence of the higher resistance of the air space in the reflective units.

When the reflective film is on the outside surface of the inner pane the over-all reflection of the unit is greater but the total admission is also higher. This is because the energy absorbed by the coating on the inner pane is mostly transferred to the room side. Thus, from the point of view of minimizing heat gain, the best place for a reflecting film is on the inside of the outer pane.

With the coating on the outside pane, however, the outer pane gets quite hot when it is in strong sunlight. There is, therefore, an increased chance of thermal breakage with this arrangement and some manufacturers recommend installing their reflective units with the coated pane inside. They thereby sacrifice part of the shading coefficient advantage to reduce the chance of thermal breakage.

TABLE II

MAXIMUM VALUES OF SOLAR HEAT GAIN FACTORS

Date	Direction		
	N	East West	S
21 Jan	16	134	251
Feb	21	176	249
Mar	26	210	221
Apr	32	222	176
May	36	219	137
June	37	215	120
July	37	215	133
Aug	34	213	169
Sept	28	197	214
Oct	22	169	240
Nov	17	131	246
Dec	14	108	244

Values are in Btu/ft² hr.
These data are taken from NRC 9528.

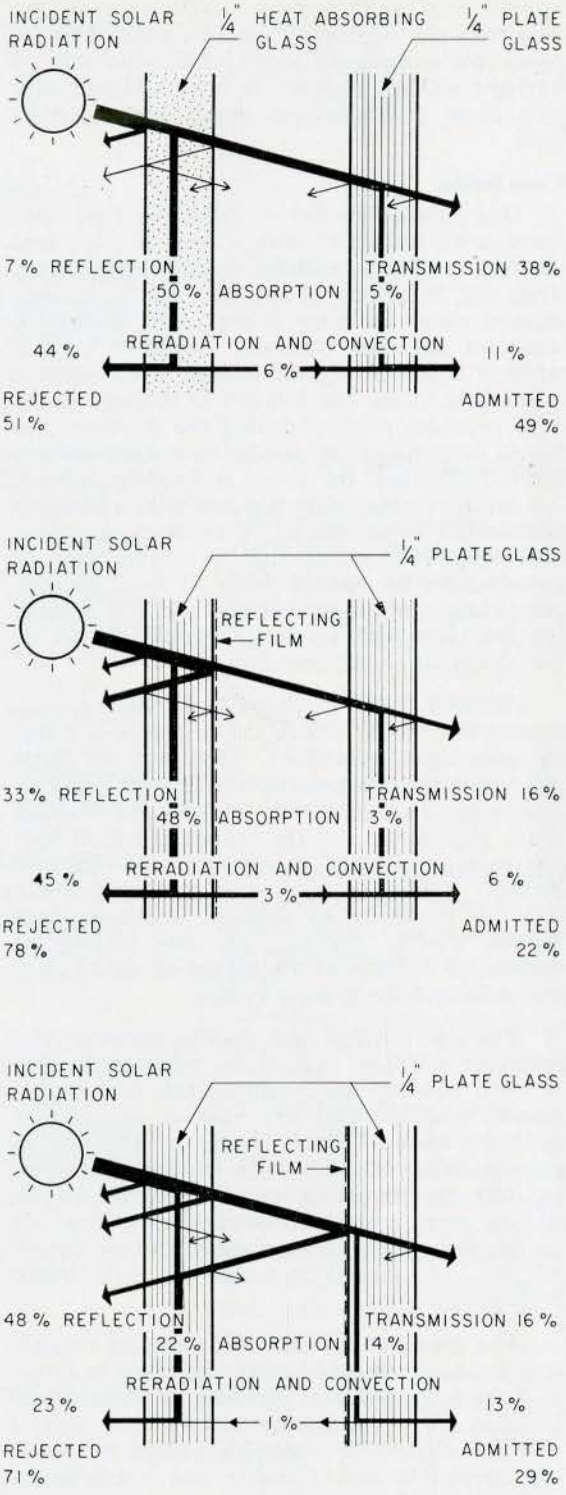


Figure 1 **Components of solar heat admission and rejection for heat absorbing and heat reflecting double-glazing units.**

Most metallic films are not robust enough to be used on an exposed surface and are applied mainly in double-glazing units. It is possible, naturally, to protect a reflective film by over-coating it with a hard transparent material to make a reflective single-glazing unit. These units have a lower shading coefficient than non-reflective types of single glazing, but they do not have the reduced U-value that is such an important by-product of a reflective coating in a double-glazing unit.

Heat Gain Through Windows

The total heat gain through a window is given by:

$$\frac{\text{Heat Gain}}{\text{Area}} = U(\Delta T) + \text{Shading Coefficient} \times (\text{SHGF})$$

where ΔT is the difference between the air temperatures outside and inside the building, being positive when the outside is warmer than inside;

and SHGF (solar heat gain factor) is the solar heat gain that would occur through a single pane of ordinary sheet glass in the same situation.

The U-value and shading coefficient are characteristics of the window and are independent of where it is installed, whereas the ΔT and SHGF are characteristics of the environment and are independent of the particular type of window.

The significance of the difference between one shading coefficient and another depends on the magnitude of the SHGF and a difference in U-value depends on the magnitude of ΔT. Table II gives the daily maximum values of SHGF for windows facing the cardinal directions at 45 degrees north latitude. These data show that east and west exposures have high values of SHGF during the whole summer, and low values in winter; the situation is just the opposite for windows facing south. Thus windows with a low value of shading coefficient have much more benefit on east and west facades than on south exposures, and the value of the shading coefficient has very little significance for north-facing windows.

The magnitude of the U-value is most significant in winter when ΔT has a large negative value. Thus the longer and colder the winters, the more advantage in using windows with a low U-value. For south exposures the benefit of the low U-value of reflective windows is offset to some extent by the reduced solar heat gain during winter, when it would often be welcome. Even on south exposures, however, reflective windows will usually reduce the total cost of heating under the conditions that prevail in Canada.

Light and Heat

There is no fundamental difference between light and other forms of radiation such as

X-rays or radiowaves. There is a difference only in the eye of the beholder. A human eye can detect radiation if the wavelength is between 380 nm* and 750 nm; radiation between these limits is visible and is called light. About half of the total energy of solar radiation is associated with the visible wavelengths, the other half with wavelengths longer than 750 nm. This latter half is usually referred to as near infra-red radiation.

Heat absorbing and heat reflecting types of windows are more transparent to visible than to near infra-red radiation. It is wrong, however, to imagine that any type of window can completely filter out solar heat and still let light through. The energy associated with the light will always appear as heat when the radiation is absorbed.

The ratio of light to heat emanating from any light source is a measure of the luminous efficacy of the source. The efficacy of different light sources can be compared directly only when all heat gains are expressed in the same units. As the watt is the internationally recognized unit for power and rate of heat transfer, and the lumen the unit for light output, luminous efficacy is usually expressed in lumens per watt. The higher the value of this ratio the less heat is associated with a given level of illumination. Window heat gain rates that are in Btu/hr can be converted to watts simply by dividing by 3.41
(i.e. 1 watt = 3.41 Btu/hr).

The luminous efficacy of a window is related to the light transmission and shading coefficient by:

$$\text{Luminous Efficacy} = \frac{125 \times \text{Light Transmission}}{\text{Shading Coefficient}}$$

The factor 125 applies when the incident radiation is direct sunlight; this constant should be about 170 for diffuse light from a clear sky. Using the value of 125 with the light transmittance and shading coefficient data in Table I gives a luminous efficacy of about 115 lumens/watt for a double-glazing unit with regular plate glass. A similar unit with an outer pane of ¼-in. heat absorbing plate has a value of 100 lumens/watt; and a double unit with a reflective film of gold on the inside of the outer pane has an efficacy of 175 lumens/watt. These values compare very favourably with artificial light sources; fluorescent lamps give about 70 lumens/watt and tungsten filament lamps are only between 10 and 20 lumens/watt. Thus, a room that is designed to take full advantage of daylight will not necessarily have a higher heat gain than a windowless room with artifical light.

Conclusion

One special feature of reflective type windows is that they achieve a low U-value and shading coefficient without obstructing the view. They are, therefore, of special value in circumstances where the view is important. Reflective windows act like "one-way mirrors" in that when it is much brighter outside than inside it is possible to see out but not in through them. This provides privacy during the daytime, but blinds or curtains are needed to ensure privacy after dark when the room is brightly lighted. An ordinary clear glass window with a blind or curtain has an advantage over reflecting or heat absorbing windows on dull days; the blind or curtain can be opened when it isn't needed, permitting more light to enter and not obscuring the view with a strong reflected image of the objects in the room.

Another point to consider is that replacement units should match the originals in transmittance and reflectance. This may be more difficult with reflective units than with ordinary clear glass. In fact, it may be desirable to order spare glazing units at the outset to ensure having matching units to replace any that are broken. Reflective type units probably are a little more prone to thermal breakage than regular double glazing, and this should be taken into account in the design of sealed glazing units and the glazing system.

The low U-value and shading coefficient of reflective windows reduce the maximum value of both heating and cooling loads and consequently the size and first cost of an air-conditioning system. There is also a reduction in the operating cost for both heating and cooling. Whether these savings are sufficient to justify the extra cost of reflective windows depends on the particular circumstances, and an economic analysis should be made for each individual project.

The thermal and light transmitting characteristics of a window can be specified in terms of light transmittance, shading coefficient and U-value. A performance specification should give the maximum allowable values for shading coefficient and U-value and a minimum allowable light transmittance.

*nm = nano metre = one millionth of a millimetre.

instructions.
The second cost-saver is the data centre. Most computer manufacturers have established at least one major data centre in Canada, and some computer applications consulting firms also have established centres. These centres are usually staffed with specialized technicians, and offer the services of a large computer on a per-job basis. For many kinds of calculations, use of data centres may result in saving in cost and effort. The disadvantages are again the fact that few sets of specialized instructions have been developed of use to the architect and the costs of developing further computer instructions are high. Further, the use of a data centre requires that one bring the information to the centre and pick up the answers to calculations after they have been done. The quick-access advantages of having a teletype connection to the office are thus lost. It is not really feasible to store files of data in a centre, since one must purchase space separately in the machine.

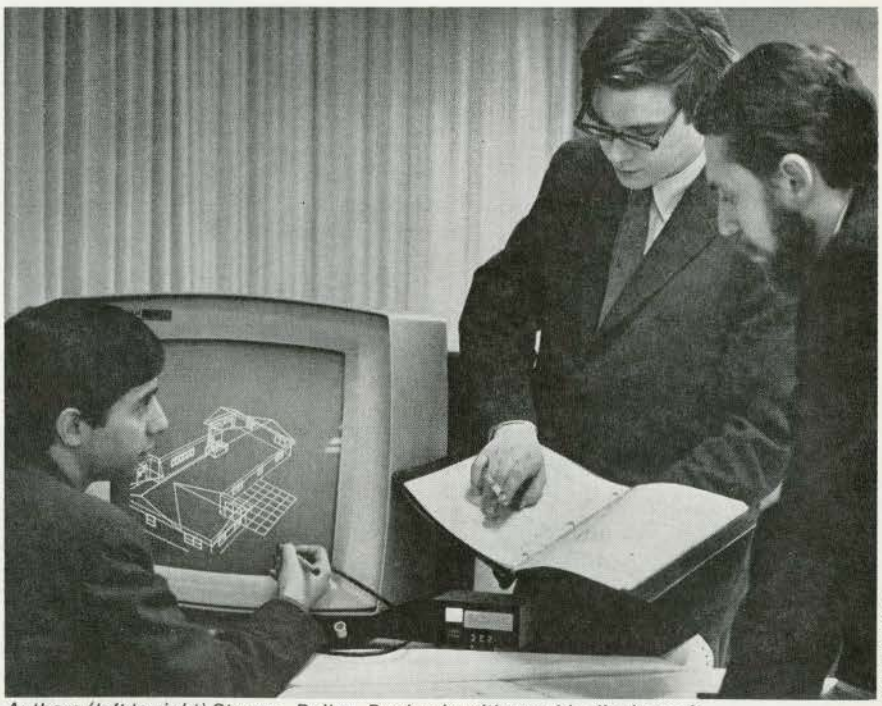
The third possible alternative is practical today, but in general has not been developed. This is the establishment of very specialized data centres by groups of offices, sharing the expense of renting the various time-sharing connections and services, and the costs of paying for specialized staff who manage a centre with a particular professional orientation. The problem has been to get small, competing firms together to agree upon the establishments of such centres. Between five and ten small organizations, each providing from $300 to $500 per month, could afford many different kinds of equipments and services housed in a data centre of their own, maintained and operated by specialized staff.

About the most realistic alternative to educational up-dating to use computers is the retaining of computer applications firms to provide personnel who are familiar with the applications required and with architects themselves. Programmers who have been trained to operate computers with backgrounds in architecture or related fields are invaluable, since they talk the same language as architects and machine operators. A group of architects could easily support the services of such a person for the operation of a centre of their own, at the very least on a part-time basis. His services would be supplemented by consultants in special fields as required.

On the subject of training, computer manufacturers have gone to great lengths to provide for the quick training of prospective clients in the capabilities and required "languages" of their machines. IBM offers programmed self-study courses in general computer systems and several of the computer languages. CGE offers more personal courses covering a broad range of topics, for the most part arranged to suit personal time schedules.
The problem of keeping data processing up to date with user needs is much more difficult to solve than other topics previously discussed. Both the field and the data processing needs of the architect are changing rapidly. The development of individual, single purpose sets of computer instructions, (programs), are usually expensive. Programs are commodities which are sold or made available with the leasing of computer services or the outright purchase of a computer. What is required is some general purpose, "universal" data management system, which may act as a base structure upon which many different sets of instructions may be developed, and into which many different kinds of formats of data may be entered.
To this end, the Metropolitan Toronto Roads Department recently commissioned Proconsul Limited of Toronto, a computer applications firm, to undertake the development of such a general system. This is now in use for highway calculations and the storage of land titles and assessment records. The value of the system is that its single purchase provides the basis for a great variety of single purpose programs, covering almost all of the applications we have outlined. This "universal data management system" probably represents a major innovation in the field and could be a sound investment for the kind of specialized data centre we have discussed.

Several other available useful innovations to the architectural profession are worth noting. IBM is marketing television-type tubes to be attached to either computers themselves or to time-sharing "terminal" machines. These tubes come with "light pencils", which may be used to make changes on plans or diagrams stored in the computer. There has been considerable publicity about the possible use of these "cathode ray tubes" by designers. Other uses include the display of information, plans and designs, and the editing of graphic files.
The computer graphics picture is somewhat confusing. IBM offers a graphic "plotter", a machine which will draft in ink or pencil and which may be leased with the IBM-1130 computer. Several other organizations, including CGE and US and German companies offer plotters of varying quality and costs. But in general, a good graphics set-up is expensive and does not appear ready to enter the market of the small architectural practice. The supplying of instructions to a computer for the operation of a plotter is a big operation. Unless the architect is interested in establishing a single basic design and then making many alternative small changes in that design, the plotter does not represent a real cost improvement over the services of draftsmen.

In summary, there appears to be a sizeable number of computer applications possible today in the context of the small practice. If a group of architects could come together in establishing a specialized "data centre", the costs and personnel questions associated with data processing might be resolved. The single major remaining problem is the time-investment required to make the centre fully operational.
The next few years should see a cost reduction in many of the sophisticated forms of equipment currently used in design experimentation, making them feasible for groups of offices maintaining data centres.
For further information:
1 "Quicktran Time Sharing", *Engineering Digest*, August, 1967.
2 "Computer Graphics", T. E. Johnson, *Architecture Canada*, June, 1967.
3 "Performance Design", entire issue of *Progessive Architecture*, August, 1967.


IBM Danubie
Authors (left to right) Strauss, Bailey, Benjamin with graphic display unit.

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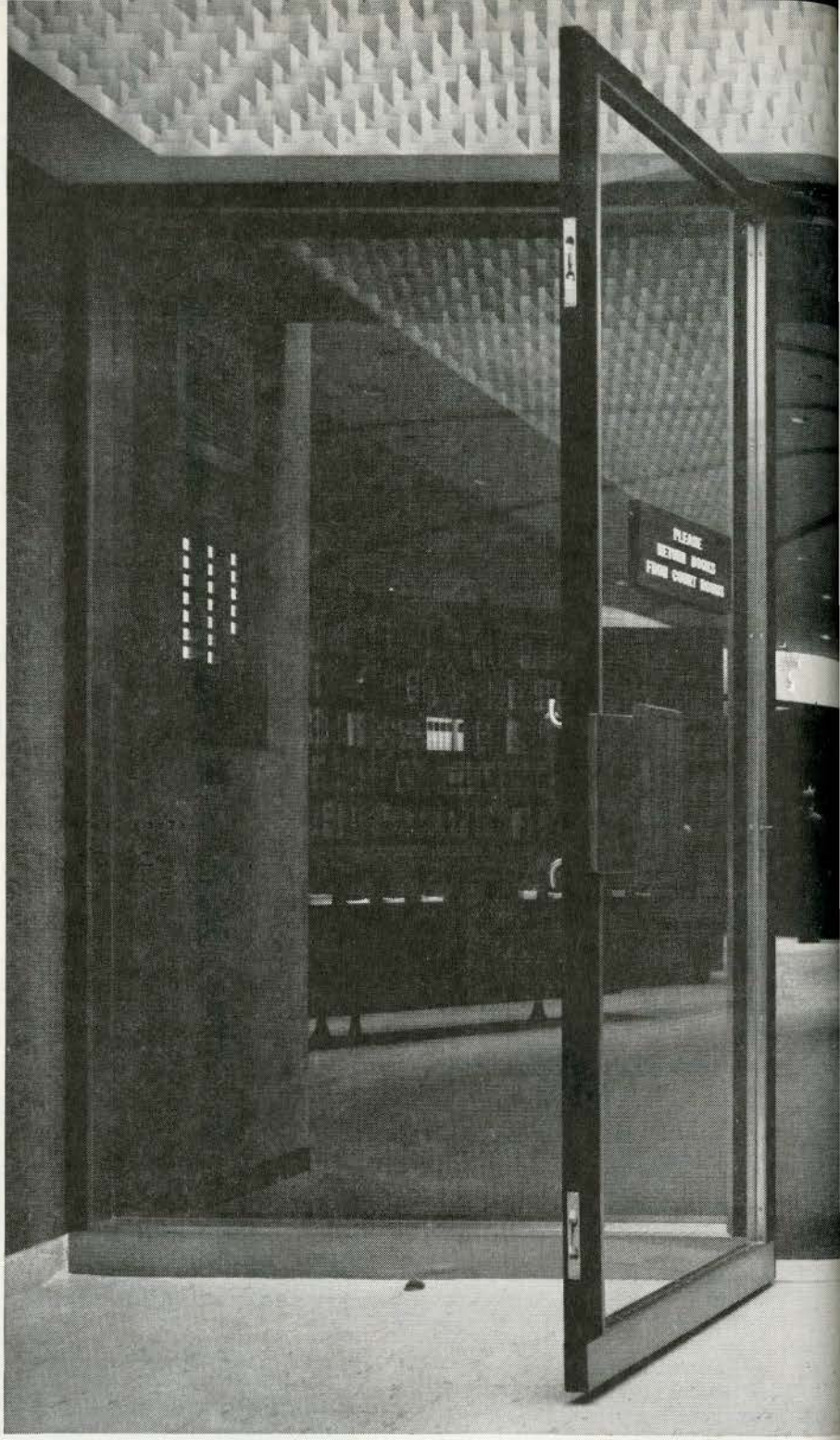

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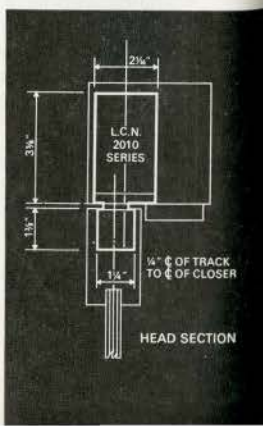

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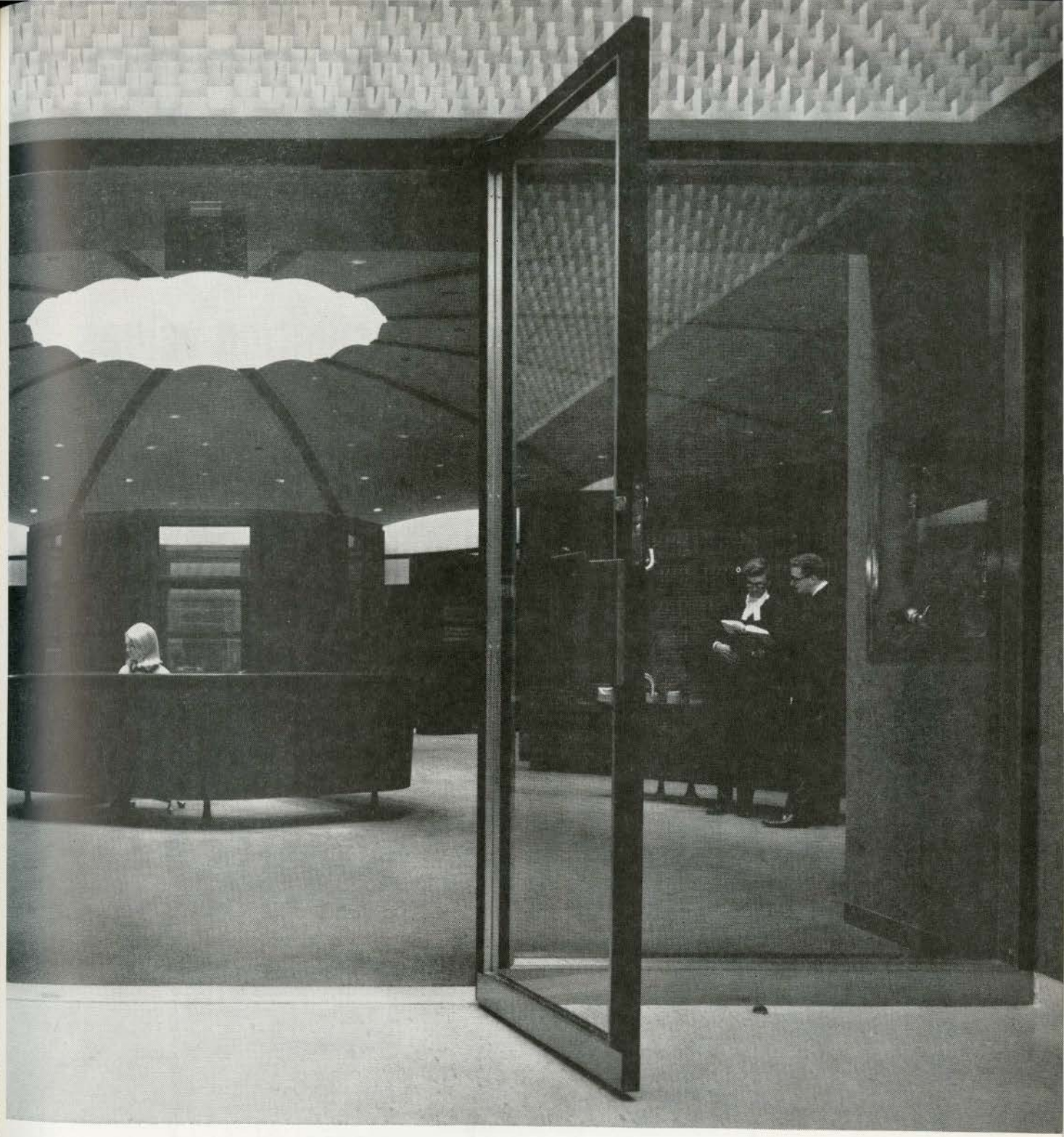

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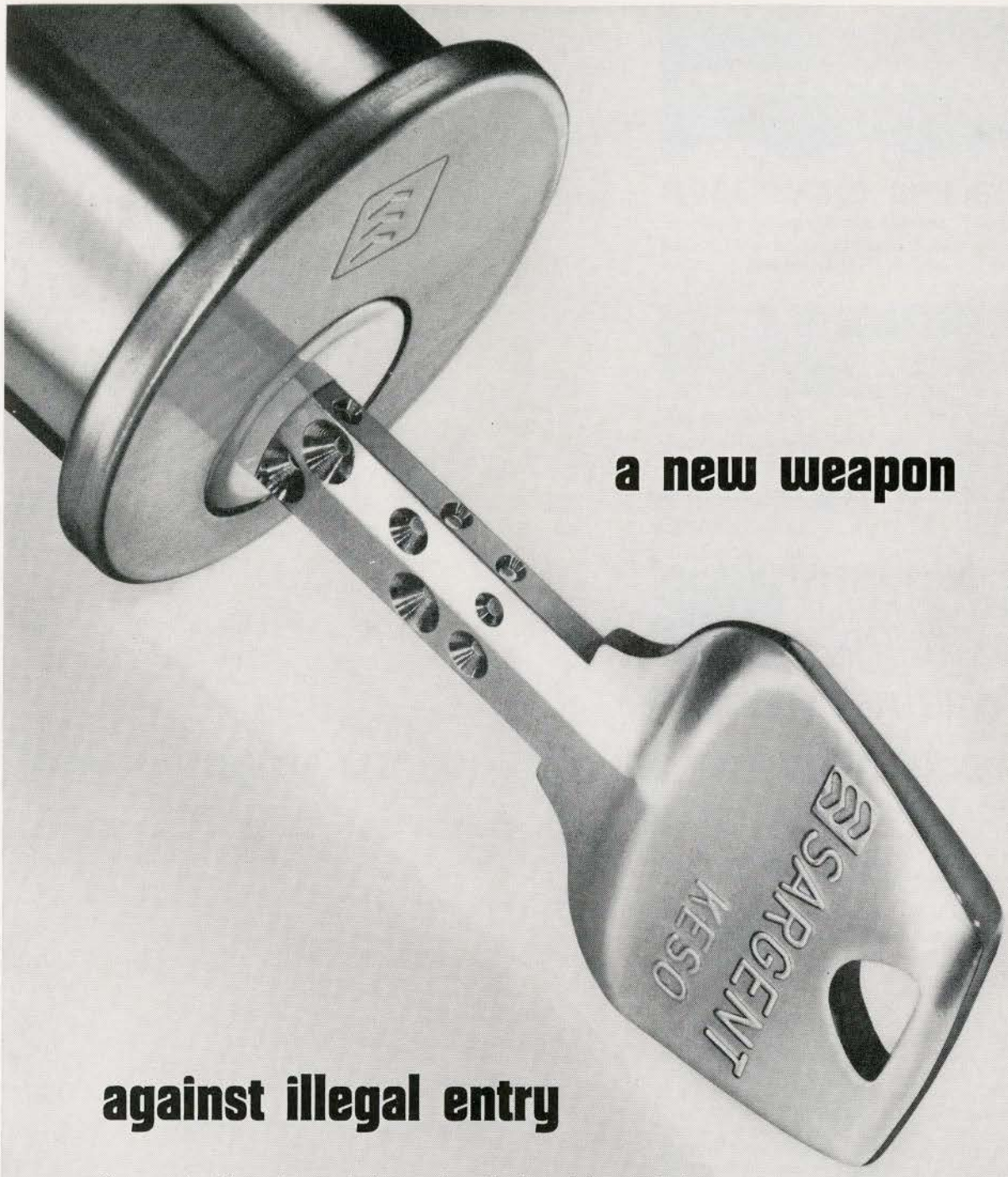

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Tendering and Contracts Part 4

Technical Technique 6

J. V. FitzGerald, MCIQS, CET, ARSH

In this, the last in the present series on tendering and contracts, J. V. FitzGerald discusses the subject from the point of view of the general contractor. Mr FitzGerald was formerly employed with several large general contractors as chief estimator and, more recently, as manager of special projects. He is now in private practice as a quantity surveyor specializing in construction management and economics.

Deficiencies in communication probably account for the largest unidentified waste in commerce today and I often wonder why we do not fully appreciate the true value of properly communicated understanding.

How often do we hear a contractor complaining of the deficiences of the architect, while the architect for his part too often looks upon the contractor as someone who is less than honest, making an excessive income out of extras whilst bemoaning the fact that he can never make a profit.

I make no apology for presenting the contractor's approach to tendering and merely wish to reverse Robert Burns' famous prayer "O the good Lord would the gift to gie us, to see ourselves as others see us" by saying "Let us try and objectively see the other point of view before becoming firm in our own particular attitude."

There is no doubt that tendering in the construction industry is an area that can be greatly improved by persuading the industry generally to view this operation with greater seriousness and objectivity. By this, I mean that any contractor (large, medium or small) must devise a sound tendering policy, because faulty tendering can have a disastrous effect on a company. This policy must consider a variety of factors, some of which are discussed in this article.

Type of Work

One of these factors is the type of work the particular company prefers to engage in. If a project is selected which is a departure from the normal sphere of operations, the risk factor can be considered to automatically increase and, therefore, a great deal of prudence is needed. For example, I could hardly recommend the Prince Edward Island Causeway as a good first endeavour in the field of transportation construction, or the Centre for the Performing Arts in Ottawa as an opportunity to start in the field of large building complexes.

Involved with this are the talents and skills of the project staff. Any business organization is only as strong as the people it employs. In the case of a construction company this fact must be brought home with greater emphasis because of the diversity of projects and their very often remote geographic locations.

The construction project manager and his field organization carry a degree of responsibility quite unique in the industry. In fact, it is quite often reasonably said that for the purpose of a particular project the project manager *is* the company. Therefore, it may also be reasonably said that a contractor who is prepared to get the job first and then go out and hire project management staff for it is really flirting with fate. Regardless of the apparent qualifications of the newly-acquired strangers to the organization, they cannot possibly be expected to be adequately acquainted with the routines and administrative practices of their new employer sufficiently to assume the responsibility of being his sole representative on a project. It would be wise to recommend to a company prepared to staff a project this way that their gambling instincts may possibly be better rewarded were they to take their working capital to the race tracks, or to the card or dice tables, depending on how quickly they require to be put out of their agony of anticipation.

Economics

Another factor is a well informed and constantly up-dated reporting system concerning the economics of the country, the province, and the local area in which work is being tendered.

The reporting system would also contain a list of forthcoming projects in order that management could consider the overall economic picture. By this means, management can select well in advance the projects they consider the most desirable to pursue in a particular area in relation to the company's resources. Thus they can avoid the deployment of the high profit potential resources of men, financing, and equipment, on a low profit potential project, when the possibility exists of a considerably more attractive project being called for tender in the immediate future.

Finance and Administration

The accounting department of a construction company should provide a means of keeping management fully informed of the balance of sureties outstanding and the bonding status of the company, the cost experience to date as compared with the type of project under consideration, and the cash flow situation as it exists in the company at any given time. Many construction companies are reluctant to confer at any length with their accounting departments because in their eyes accounting departments tend to overstep their authority by imposing controls which while they may be good at inception, quickly become restrictions which strangle the company's activities. It would probably be fair to say that accounting principles which may be applied to "line industries" very successfully, do not always achieve equal success when applied to the construction industry – possibly because the construction industry when compared with its more automated contemporaries depends to a much larger extent upon the strengths and failings of human nature. However, this in no way justifies a contractor ignoring the fact that financial considerations must be taken into account when contemplating the possibility of tendering a project, and experienced contractors should be able to call upon their accounting departments for advice as to whether or not particular financing requirements can be met.

The Owner

An important factor is the building owner. Before deciding to submit a tender the contractor must give some thought to the owners qualities. Is he a desirable client? Is he a company or organization with adequate ability to meet the probable final cost of the project? And does he have a good reputation for fair business practices, or does he have a reputation for slow payment,

or even of litigation before his contractual obligations of payments are fulfilled? The answers to these questions will have a strong bearing on whether or not to tender.

The Architect

Equally important is the calibre of the architect. Is his experience sufficient for the project under consideration? Is his practice well manned with experienced and proficient staff so that production of design criteria, drawings and processing of shop drawings will be expeditiously carried out? And is sufficient authority delegated to his field supervisory staff to ensure that they are decision-makers who constructively effect quality control on the project?

It should be remembered that no contract exists between the contractor and the architect, so that when the constractor suffers monetary loss because of the inefficiency or incompetence of the architect, the only recourse open to him is to attempt to recover his loss from the owner, either by skimping on the work or by litigation, neither of which shows the architect in a very good light.

Tender Forms

Linked with the calibre of the architect is the tender form he issues to the contractors. It should be well known that sub-trade quotations are submitted to the general contractor very often only minutes before he has to submit his own tender, yet some tender forms ask for information which would take hours to assess properly.

Nobody denies the owner the right to consider reasonable alternatives before accepting a tender. On the contrary, contractors and their sub-contractors are as anxious as the architect to ensure that they submit the best possible competitive price, but in order to do this they should be allowed to submit supplementary information such as alternatives or specialized unit prices from 24 to 72 hours after the closing time for tenders. If this is done the contractor will have time to consider the alternatives and unit prices, rather than having to guess at them. Ill-considered, ambiguous or misunderstood alternatives priced under hurried conditions are of little use to the owner, may increase the cost of the project and can lead to disputes at a later date.

Estimating

A very important consideration is the capacity and calibre of the estimating department, and this means that control of the volume of estimating is imperative. Naturally, there are periods when working hours have to be extended in order that certain requirements are met. However lengthy periods of extended working hours in an estimating office must be avoided wherever possible. It has been my experience that an over-tired estimator is a very bad risk, and all too often the errors which have occurred when estimators are overworked are not discovered until the work is in progress some considerable time later, when financial losses may have been incurred.

Generally there is a severe lack of appreciation among the construction fraternity as to what an estimate really is, and most certainly there is a lack of appreciation in many cases of the calibre of people required to prepare them. When preparing a detailed estimate, the estimator relies to a very great extent upon the cost reports and records of experience gained by his company from previous projects. When it comes to the methods study and scheduling aspect of tendering, many construction companies do not allow themselves sufficient scope to exploit this instrument of strategy. A methods study is of the utmost importance because the discoveries made during the study can provide management with salient information which can only benefit the tender as a whole.

The part played by a well-detailed construction schedule must not be underestimated. The schedule is a very important estimating tool when considering site overheads such as staffing and salary requirements of the site organization, the time requirements of the plant list, periods and magnitudes of winter protection, heating requirements, etc.

Subcontractors

The sub-trade portion of a building estimate very often can reach 85% of the dollar value of the project. This fact is the cause of general contractors frequently being regarded as brokers. In the award of a general contract there is only a contractual relationship between the owner and the general contractor. If a sub-contractor is found to be in default or fails to perform, the responsibility rests entirely with the general contractor. In common law a tender submitted by a sub-contractor, even in writing, is not binding unless the tender is accepted in writing before it is withdrawn. When we consider the length of time often allowed to elapse between receipt of sub-trade tenders and written acceptance, we can only applaud the relatively high standard of honor which prevails in the construction industry, particularly when as a general practice in Eastern Canada sub-trade tenders are received by telephone. A prudent general contractor should be well informed as to the financial stability, performance ability, labour relations, work load capacity, etc. of his potential sub-contractors.

Profit

The amount included for profit can decide whether or not the tender will be successful and its assessment calls for great skill on the part of management.

One must always remember that profit in business is the principal honourable motivation, which means that it must never be treated lightly. The incidence of bankruptcy is all too frequent in the construction industry, even in times of prosperity, and faulty tendering must often have been a large contributing factor. It was reported that in the operating year 1963 something like 49% of firms engaged in construction (contractors and sub-contractors) in Canada did not make a profit.

Whether it is described as profit or fee, it must include not only the contractor's remuneration but provide contingent amounts for items not covered by the estimate *per se*, such as the head office expense. This expense includes such items as head office salaries, directors' fees, rent, furniture depreciation, legal and audit fees, telephone and communication, stationery, etc. A well-established general contractor can express these costs as a percentage of the annual dollar value of completed construction. In addition, should the estimate not contain an allowance for labor escalation, strikes, labor shortage, financing, inclement weather, etc. or should management consider the amount allowed in the estimate to be inadequate, then a sum should be added to meet these contingencies.

Having covered the overhead and risk hazards, the contractor's next decision is a consideration of what is adequate compensation for his endeavor and the return he requires on his investment. Considerations of this requirement become complicated by other salient factors, the first of which is market conditions, which leads to the possibility of a company wishing merely to "stay alive" and keep its operating team intact during a period of recession; or what the traffic will bear while still maintaining a competitive tender price. In this regard there are two elements that should be carefully assessed.

The first is time. The rate of income is a direct function of time. A project which may be completed in five or six months justifies a lower percentage factor than one which may take a number of years and frequently too little recognition is given to this factor by contractors. The second element is the number of supervisory and administrative personnel required to execute a project.

Any construction company, regardless of its size, has only a certain number of teams or field organizations. If the company is to enjoy long term financial success, then each "team" must earn each year a sufficient sum over and above the amount required to merely pay overhead. This is another factor which is frequently afforded too little recognition by contractors.

Competition

There is one other consideration before the contractor decides whether his investment in the preparation of a tender is a worthwhile endeavour, and that is an evaluation of his competition. Very often on municipal work, long lists of bidders are attracted. Many of these bidders seem to employ a "hook in the stream" type of tendering policy which makes it appear that they churn out tenders in a sort of mechanical process because the work mainly consists of subcontracts. Possibly they procure work because of tired or bored estimators. Frankly, I do not recommend this approach and prefer the more sophisticated approach of the more mature contractors who carefully select work that requires them to exercise their developed skill and ingenuity as contractors. Usually this type of work attracts a smaller list of competitors, because it contains some complex construction problems requiring the contractor's staff to call on their experience and competence to a greater extent than would be required for the run of the mill type of project. At the same time there is a greater risk factor in this type of work, but, it should be remembered one of the contractor's main stocks-in-trade is the ability to take a risk, and this ability is dependent on the resources of staff and equipment employing their experience, ingenuity and competence. □

Architecture Canada
Monthly Report of Unit Prices

The unit prices given below are average rates for reasonable quantities of work carried out in the locations shown. They are net rates including waste where applicable but without any allowance for a general contractor's overhead and profit. Users are cautioned that unit prices are affected by the location of the project, market conditions including the availability of materials and the availability and productivity of labor, the size of the project and the quantities of materials required, the circumstances under which the work is being performed, the type of construction etc. and these factors must be taken into account when using them. In particular they should not be used for alteration work or for changes in the work during construction.

5.4 Masonry (cont'd)	Unit		Vancouver	Edmonton	Regina	Winnipeg	Toronto	Ottawa	Montreal
Blockwork (cont'd)									
12									
4" Lightweight block in partitions	Piece	Low $	0.70	0.68	—	0.44	0.70	0.68	0.50
		High $	0.75				0.75		
13									
6" Lightweight block in partitions	Piece	Low $	0.75	0.76	—	0.51	0.80	0.77	0.62
		High $	0.85				0.85		
14									
8" Lightweight block in partitions	Piece	Low $	0.80	0.84	—	0.60	0.85	0.82	0.78
		High $	0.90				0.90		
15									
10" Lightweight block in partitions	Piece	Low $	1.00	0.98	—	0.75	0.98	0.93	0.86
		High $	1.10				1.03		
16									
12" Lightweight block in partitions	Piece	Low $	1.20	1.10	—	0.82	1.07	1.00	0.98
		High $	1.30				1.12		
17									
Extra for flush joint one side of block partition	SF	Low $	0.05	0.08	—	0.05	0.05	—	0.02
		High $	0.10						
18									
Extra for flush joint both sides of block partition	SF	Low $	0.10	0.16	—	0.08	0.08	—	0.03
		High $	0.20						
5.5 Metals									
1									
Structural steel framing with botted connections	Tons	Low $	600.00	525.00	400.00	400.00	350.00	420.00	300.00
		High $	700.00				360.00	460.00	330.00
2									
Open web and long span steel joists	Tons	Low $	600.00	550.00	430.00	380.00	350.00	410.00	360.00
		High $	650.00			460.00	360.00	460.00	380.00
3									
18ga. 1½" corrugated steel roof deck	SF	Low $	0.65	1.20	0.42	0.55	0.45	0.36	0.45
		High $	0.70				0.50	0.38	

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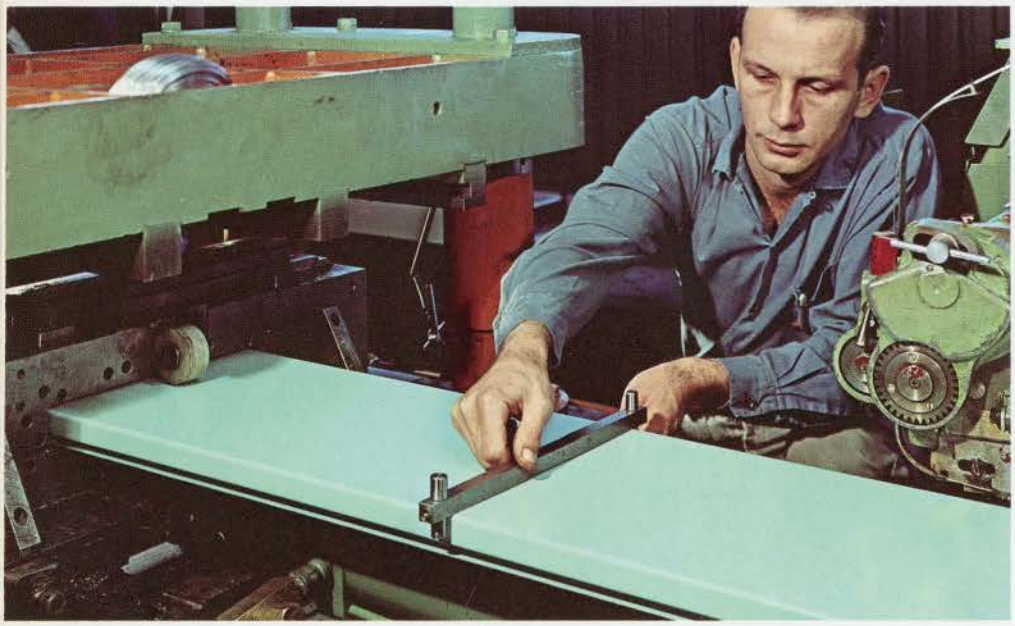

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Roll forming at Lorlea Enterprises Limited

Installation of panels manufactured by Peerless Enterprises, a division of Tectum Limited

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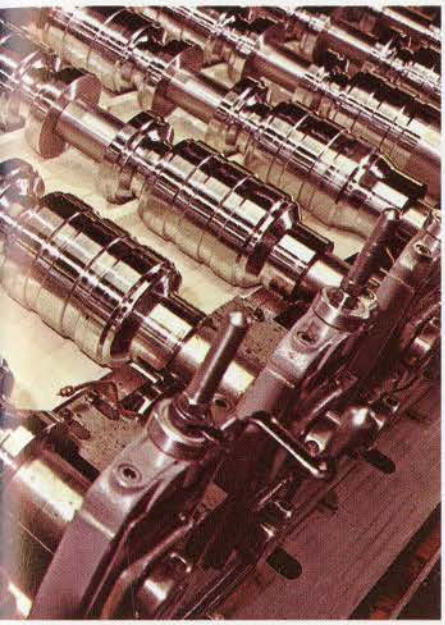
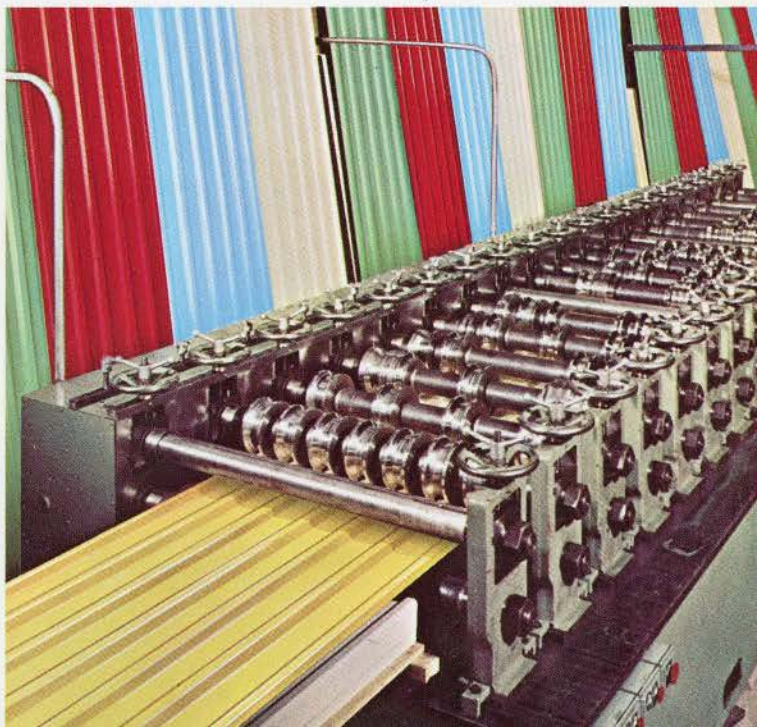
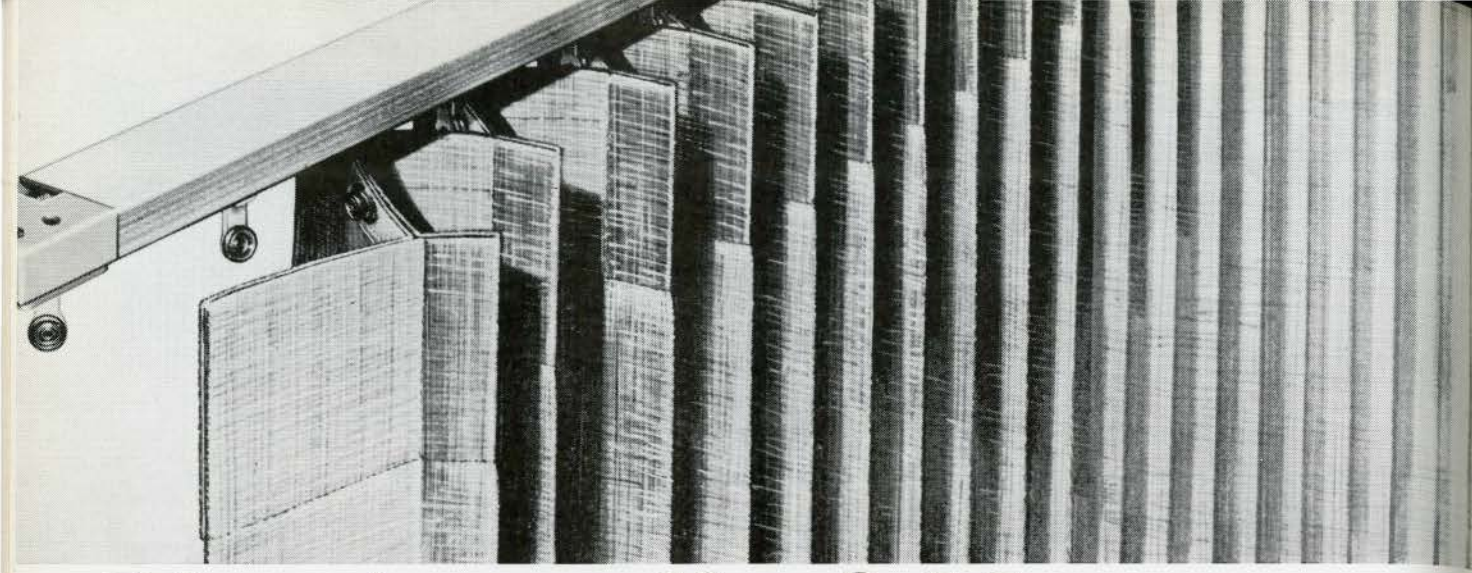


Production inspection at Armco Drainage & Metal Products of Canada Ltd. new roll-forming equipment

Order checking at Westeel-Rosco Limited

Panels being roll-formed at Eastland Metals Ltd





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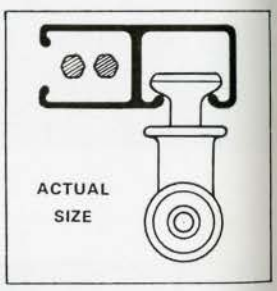

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Condominium and its Implications

K. A. Finlayson, B.Arch (Capetown)

Mr Finlayson is a Master of Architecture candidate at the Graduate Design Studio, University of Toronto. He was awarded a Rotary Fellowship in 1967.

"First there was the land and a few Indians. Then some white men came and called the land 'San Francisco' and spoke of its wonderful climate and compelling beauty, and they wanted to own the land. And they divided it up by the foot. One day all the land was gone, but the people continued to multiply. Since there was no room for them to live side by side, they agreed to live on top of each other. Today, hundreds of families are buying new homes in San Francisco with wondrous views and ideal locations. Their access road is an elevator. A hallway is their street. And their lot is a cube of space suspended hundreds of feet in the air."

This quote by Gene Drossel in "Westward", a monthly magazine, also describes urban Canada today, in particular Toronto where phenomenal urbanization together with the increase in the cost of land has forced residential developers to expand vertically.

The acute housing shortage, of which we are constantly being reminded, is a partial truth in a specific context, and therefore should not be bandied around as a generality; since only very recently it was estimated that the number of vacant homes on the market in Metropolitan Toronto exceeded the 10,000 mark.

With further rapid urbanization, however, the economic and social costs of poor housing and resultant urban decay are almost certain to escalate sharply, unless long term rehabilitative and preventative measures can be substantially increased and improved. Any acceleration in the form of urban renewal will, however, clearly intensify the existing need for a great expansion in the field of low-cost housing.

Condominium could contribute to the easement of the apparent housing demand in Canada; but some elaboration in its adaptability and flexibility, in reference to low-income housing in particular, is required.

What is a condominium?

The definition to be found in Webster's Fifth Collegiate Dictionary is as follows:– "joint dominion or sovereignty," and under Roman Law, as "joint ownership".
The origin of condominium has various well documented sources, as far back as the Biblical period. The condominium form of ownership was the most ordinary form of ownership under the old Roman Law; however, a present day interpretation of condominium is the common ownership of a piece of property by two or more persons, each of whom owns an absolute inseparable interest in the property. This interest has all the characteristics more commonly associated with freehold ownership or fee simple, which includes the rights to mortgage, alienate, partition and devolve.

The two essential elements of the concept of condominium are, firstly, the division of property into units to be individually owned and common elements to be owned in common by the owners of the units, and secondly, an administrative framework to enable the owners to manage the property.

This concept is indifferent to the use to be made of the property, to the design of the buildings and to the location of the boundaries between individual and common ownership.

Basically, condominium enables citizens to own the individual units that help constitute a multiple housing development, whether it be row housing, multi-storied town housing or high-rise apartments. The individual in addition to acquiring ownership of his dwelling unit, gains at reasonable cost an equity in the land on which his unit and the development is located. With his fellow owners he has joint equity in shared facilities such as hallways, garages, recreation rooms, laundry rooms, landscaping and storage areas.

In essence it is a situation where two, three, five, or a hundred and five, people may each own a portion of a piece of property, not as tenants in common of the whole, but each individual owning his own portion of the building by himself.

There exists a demand for condominium development. The more important reasons are the high cost of land in urbanized areas, and the universal appeal of ownership – man's territorial imperative.

Condominium, since its act was passed at the last session of the Ontario Legislature and proclaimed in force together with its accompanying regulations as of the 1st September 1967, has been debated and compared with other forms of home ownership systems. This is not the first enactment of its kind on the North American continent. Most major countries of Western Europe enacted a similar legislation during the years 1930-1955. And now in the USA all but one State have passed legislation enabling condominium ownership of space.

Diagram 1 shows the process in the formation of a condominium beginning with the developer (owner of land) and terminating in the Act itself.

An absolute requirement of the Act is that the property on which the condominium is to be mounted be owned in fee simple. The land is divided into units and common elements by:

Description, and located in space to a base monument. The surveying principle that

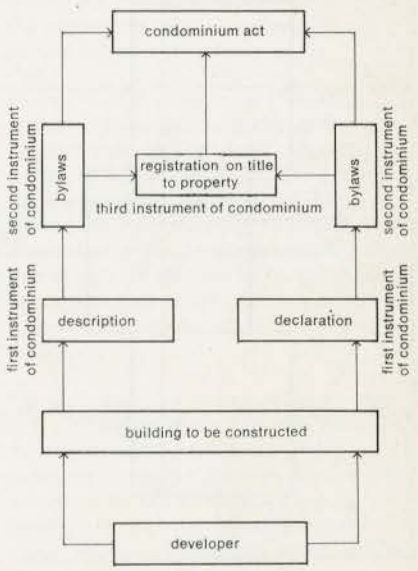


Diagram of formation of condominium

1

monuments are immovable is qualified in a condominium high rise development to the extent that monuments which are a part of the building will move with the settling or lateral dislocation of the building.

There are many methods available to surveyors for describing space above the ground surface. The particular method that a surveyor will use will be determined by the definition of the space to be surveyed as defined in the enabling legislation.
In Ontario a unit is described by reference to the boundaries of the unit, which boundaries shall be the monument and are the floors, ceiling and walls of the unit.

Three methods by which a unit of air space can be described are as follows; the first being the Sub-division Plat method – record a plat of sub-division of air space and the air lots representing the individual units by means of a drawing. It should be noted that it is advisable, when dealing with a new building to be constructed, not to record a plat of sub-division until the building is complete, thus avoiding possible misrepresentation of the finished units.

The second method is the Apartment Survey; whereby a survey is first made of the land showing the location of the building. Space surveys of each unit on each floor are then made showing the elevation of the floor and ceiling surfaces, the dimensions of the inside surfaces of the walls of each unit and their location with reference to the boundaries of the land projected vertically. (*Diagram 2*)

The third method is to make a survey of the land showing the location of the building and attach to it, floor plans showing the location of each unit, the dimensions and elevations from the ground floor surface, together with the architect's guarantee that the building was built according to the plans and specifications.

The units are to be individually owned; appurtenant to each is an undivided share in the common elements and the proportions of the shares are specified in the:–

Declaration. The details of government are left to be specified in the:

By-Laws, which should, among other things cover the election or appointment of a board of managers, with the authority to act in the normal operation and maintenance of the building, and are only amended by a vote of members who own 66⅔ percent of the common elements or by such greater percentage as is specified in the Declaration.

A corporation without share capital of which the members are the owners of the units is automatically formed upon the registration of the Declaration and the Description. The corporation is responsible for the maintenance of the common elements and the repair of the entire property.

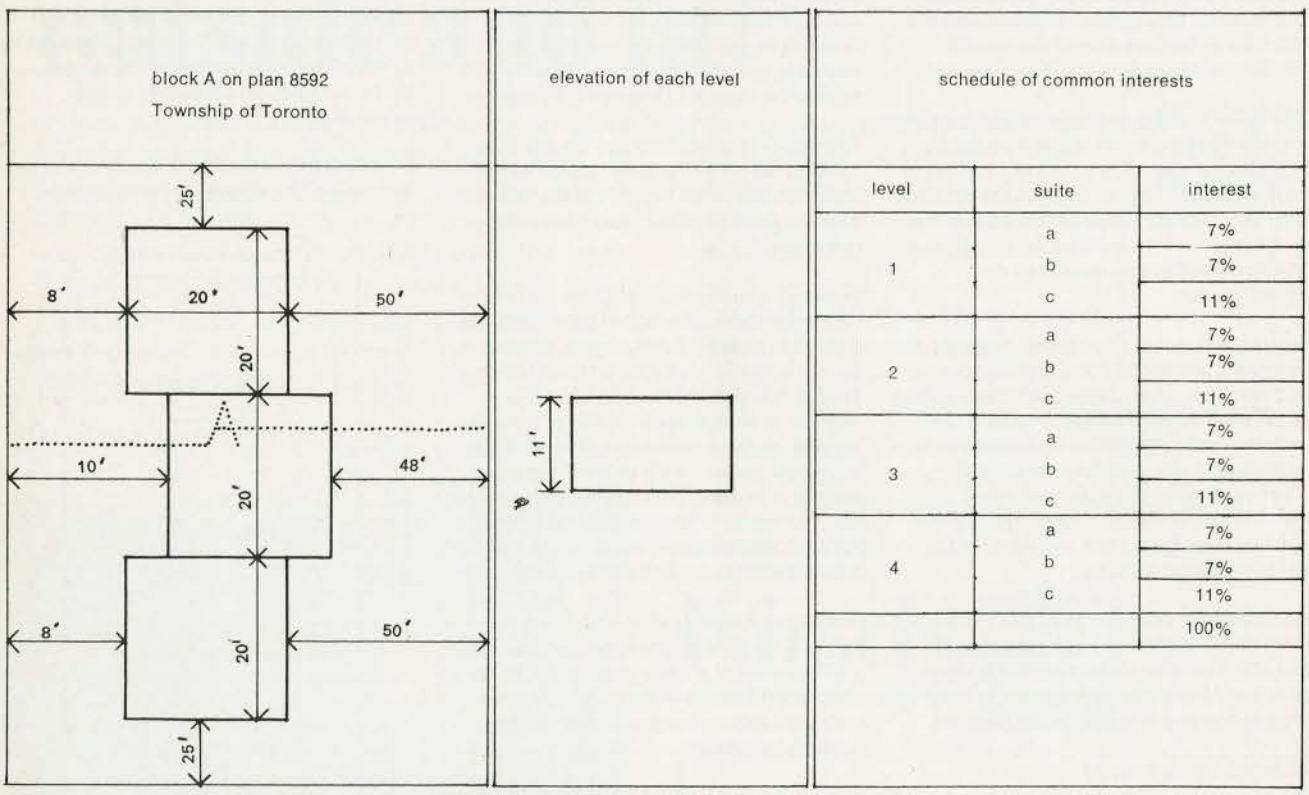
The dissolution of the condominium can occur, when, after extensive damage to the entire property, less than 80 percent of the owners vote to have the property repaired; the owners then become tenants in common of the land and interests appurtenant to the land. The assets of the corporation are distributed amongst the owners and the Act ceases to govern the property.

Condominium or Co-operative?

Condominium is often compared and in some instances confused with co-operative developments. One of the questions that is frequently asked is, "What is the difference between a condominium and a co-operative?"

Generally, they have more similarities than dissimilarities. Basically, it is a group of people living in their own apartments in one residental complex. Two problems common to both types of ownership are those of mutual maintenance and of impingement by one neighbor upon another.

Under the co-operative the fee simple title is vested in a limited company. Under con-



level	suite	interest
1	a	7%
	b	7%
	c	11%
2	a	7%
	b	7%
	c	11%
3	a	7%
	b	7%
	c	11%
4	a	7%
	b	7%
	c	11%
		100%

2

dominium the fee simple title is vested to the unit owners. Under the co-operative the occupants hold shares in the limited company and occupy an apartment under the terms of a lease from the limited company.

Some of the important differences are as follows:–

There is a flexibility in the terms of purchase. If a person wants to buy an apartment and he can pay 50%, cash, down, he is free to do so. If he buys an apartment and can only pay 20%, cash, down, he can do so, provided the owner is willing to sell under these conditions, whereas in a co-operative there is an inflexibility which prescribes a uniformity for every tenant.

In a condominium you can have an individual mortgage, so that if your neighbor defaults on his mortgage, there is not the problem of alleviating his deficit.

There exists in condominium the opportunity to reduce the mortgage as the financial position permits. You may desire to pay down a larger amount than your instalments require or stipulate. Under an individual mortgage you are able to do just that, if the mortgagee agrees, or if you have the right under the terms of the mortgage, whereas in a co-operative apartment you are subject to a blanket mortgage and you yourself cannot reduce your personal share of the burden.

In contrast to the tenant shareholder, a holder of an interest in condominium is as secure as a home owner in a well governed and controlled residential sub-division. He is not normally financially implicated with his neighbors and like a home owner, his eviction can only be effected by his failure to meet his own mortgage or tax obligations or to pay his monthly maintenance costs. This state of financial independence will tend to facilitate the resale of individual units.

Because condominium provides individual title it can be anticipated that the dwelling will appreciate in value, as any other property.

It is in the category of low income housing, where the demand is in excess of supply, and will, it seems, continue to remain so, until the existing monetary loan system is revamped and reconstructed to support, rather than restrict the use of condominium together with other forms of home ownership.

The Architect and Condominium

Several issues which confront the architect when dealing with a condominium are; firstly the extent to which he feels that it extends his design horizon; and secondly, the practical issue of whether the new design is marketable. Will it in fact satisfy a specific market demand?

The issue will undoubtedly tend to hinge upon the economic factors involved. Will the prospective buyer be prepared to pay for amenities in addition to those normally provided in apartments, since condominium is ownership? It has been suggested that a prospective condominium owner might pay the additional cost of say, a fireplace, whereas a rent paying tenant will be content with only ordinary forms of heating.

The architect must, in his proposal, clearly distinguish between unit space and communal element, since one of the most crucial aspects of condominium is the description of a unit of air space. It must be described with such certainty that a competant surveyor could identify and relocate its boundaries if they were to be obliterated by fire or other causes.

The question arises; would a person pay the same amount of money for a unit of say 'X' square feet, 'Y' feet in the air, as he would for an identical unit on the ground?

The governing factor here is, what does he stand to gain on and above his unit? In other words, it is the evaluation of the relative sets of amenities available to him in these differing localities.

Using the dollar purchasing value as the sole decision making factor, a person could acquire through condominium the equivalent amount of space as one would in a single family residential unit.

An interesting paradox is that while condominium owned apartments can be held or acquired in the same manner and for the same dollar purchasing value to that of a residential unit on the ground, the legally enforced maintenance expenses for the shared common elements may not be deemed a necessity by many people, since their set of value-judgments may preclude continual external upkeep. This is often the case in low-cost housing; tenants generally choose to do their own maintenance and improvements, as they deem necessary. Thus a built-in constraint, the maintenance of common elements, could act to discourage sales among those who would normally curb expenses by self-maintenance.

Low-cost, high-rise apartments have been launched as condominiums in Chicago during the past few years to supplement the shortage of low income housing, but they have apparently failed for this reason.

The costs of building at present are such that it is still cheaper to construct living units on the ground than it is to stack them vertically. Thus high-rise development tends to be a more expensive solution to the low-cost housing shortage. Unless new factors can create an economic system for high-rise construction, this form of housing will not meet the needs of low-cost housing.

Does condominium provide the architect with the opportunity to provide greater variation in the type of design by virtue of the fact that the purchaser will now own and not rent his dwelling unit, as well as the case before condominium was introduced? It is reasonable to suppose that it does, however, the extent of the opportunity is limited to the higher ranges of the dollar purchasing value; as the unit value increases so does the field of diversity and design opportunity, as it does for most other forms of building ownership.

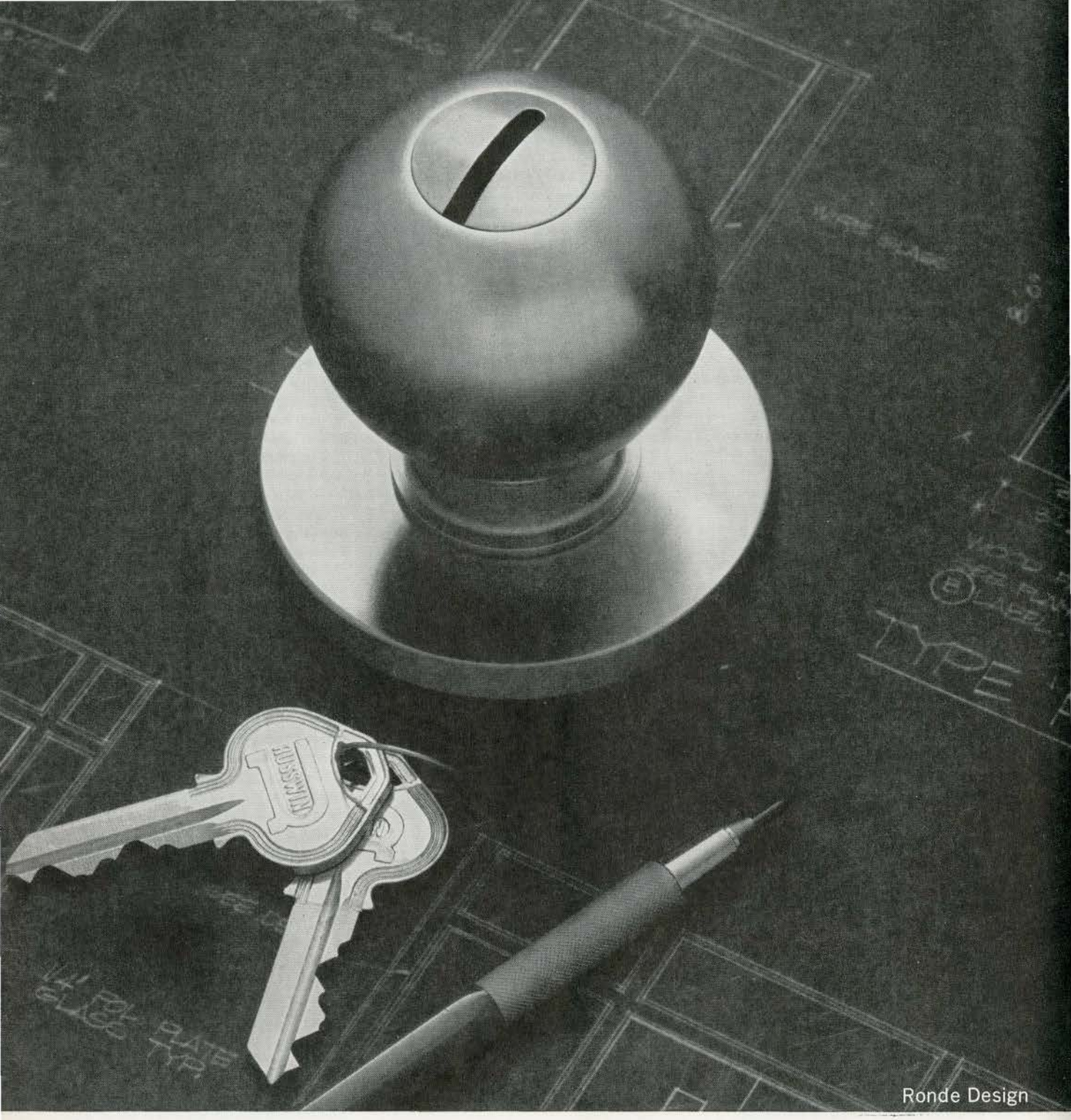
A further important problem is raised by the question of whether the sale of units be controlled by the owners or a board of managers to ensure that only reputable and financially responsible persons become the owners. For a condominium, the right of first refusal may provide the answer although this in turn may deter a prospective purchaser from entering into a conditional agreement of purchase of the unit.

A design objective which might help to curb subsequent legal and technical problems is the preclusion of any opportunity for owner initiative in changing the shape, size or volume of a unit, since the owner is legally able to make, at his own discretion, alterations and improvements provided they are within his described unit only. For example, if adjoining balconies are to be cited as part of the unit, there arises the legal and technical problem of vertical support, since a cantilevered structure, is not considered, under Description, a valid vertical support. The unit owner could and has been known to make the balcony part of his adjoining living space. Therefore in situations where the description is ambiguous, these elements should be classified and recorded as common element.

A difficulty of subsidized low-cost housing is the stigma normally associated with any form of sub-economic housing.

If some form of commercial or industrial operation could be introduced as an owner of a unit, providing of course that such owner will benefit directly by proximity to a large housing development, the member owners could benefit from the profits of such commercial or industrial operations. A decrease in the tax base by the City of such commercial operations could act as an incentive to promote the formation of such a system.

The architect, planner and developer has here a challenge to participate in the way most suited to his particular training and expertise in developing condominium as the answer which will alleviate the critical paucity of low-income housing accommodation which now exists and which, unless checked, will grow as a social and economic liability. □



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RUSSWIN

Artist, V. Andel

Our inquiry about the paint on the fireplace behind J. C. S. Wilkinson's sculpture in Alan Hodgsen's Home, (page 20) brought the following reply:

The story of the paint on the fireplace is rather amusing. The painting was not planned at all and was placed there by vandals who broke into our residence just before completion. Being a special mixture of creosote and stain for the plywood exterior it was not possible to remove it from the brick. Compared to the shocking mess made of the rest of the house we liked it so much we kept it. In fact the design has been admired by many quite outstanding architects and artists. It does fit into the sculptural element appropriately but unfortunately that part will always remain "artist anonymous".

Alan Hodgsen, MRAIC, Victoria

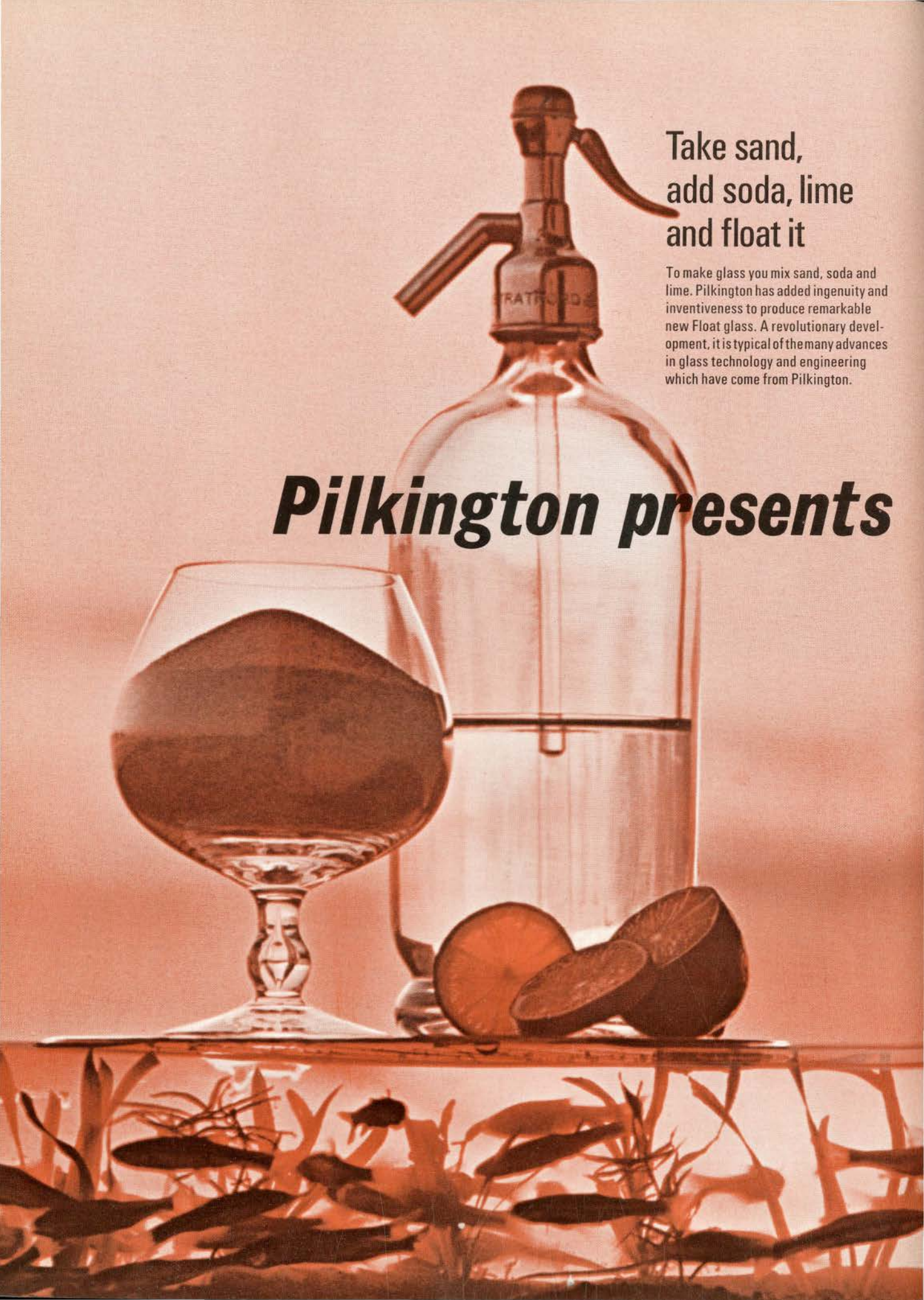
Nova Scotia Technologists Offer Assistance

The Editors:

On February 15, 1968, the Architectural Technologists Association of Nova Scotia held its inaugural meeting, culminating almost two years of intensive work and determination by the Organizational Committee. The Association is registered under the Societies Act of the Province of Nova Scotia and enjoys the recognition of the Nova Scotia Association of Architects.

The principal aims of the Association are to promote and advance the knowledge, skill, and proficiency of its members in all matters relating to Architectural Technology and its applications and to ensure to Architects, Engineers, the Construction Industries and the general public high standards of technical competence and ethical conduct. We would be happy to correspond with groups in any other province who are in the process of forming an association for two very important reasons. First, it is imperative that standards set for the grading and certification of Technologists be compatible across Canada, and secondly, we feel that our experiences and the solutions to problems we have encountered may be of help to other emerging groups.

Lawrence P. Simard, Registrar, Architectural Technologists Association of Nova Scotia.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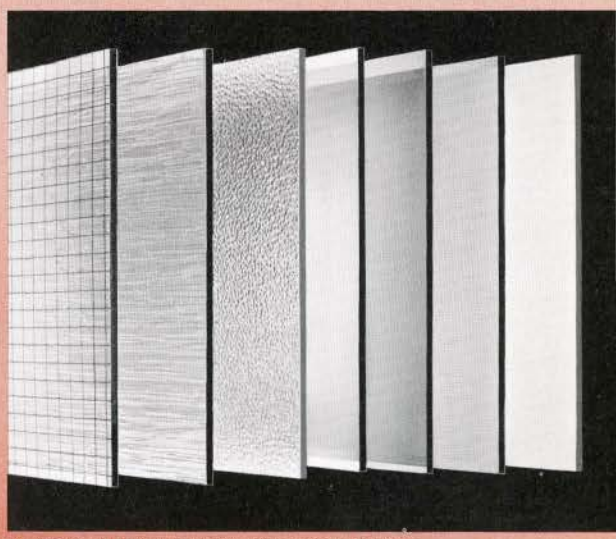

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9

Advertisements for positions wanted or vacant, appointments, changes of address, registration notices, notices of practices including establishment or changes in partnership, etc., are published as notices free to the membership.

Change of Address

Howard V. Walker, Architect, has relocated his office at Suite 707, 62 Richmond Street West, Toronto 1. The telephone number will remain 363-9109

Positions Wanted

Canadian Architect with 10 years of comprehensive experience seeks new association with progressive firm. Currently a partner in small practice. Full details upon request. Box 149, *Architecture Canada*

Canadian Architect, MRAIC, 45 years old, 1952 graduate of the University of Toronto, is considering terminating his 10 year old private Toronto practice, and would be available for interesting employment anywhere. Write *Architecture Canada*, Box 150

Norwegian architect, 29, diploma from the Stuttgart Institute of Technology, Germany, two years practice at private office Norway, member of the Norwegian League of Architects, seeks employment in Canada. Write, Axel Thomassen, c/o Hans Huitfeldt Jacobsen, 2460 Benny Crescent, apt. 511, NDG Montreal, P.Q.

Arch. Dipl. with two years office experience in residential architecture in Europe and three years experience in hospital architecture in private and government offices in London seeks position. Reply, Mr W. Berent, 9 Cairn Ave, London W5

Architect, B. Arch. (Hons.) from I.I.T., Kharagpur, India, experienced in design, modelling and working drawing seeks position as assistant architect. Write, Chitta Saha 5/7, Central Avenue, 'A' Zone, Durgapur-4, W. Bengal, India

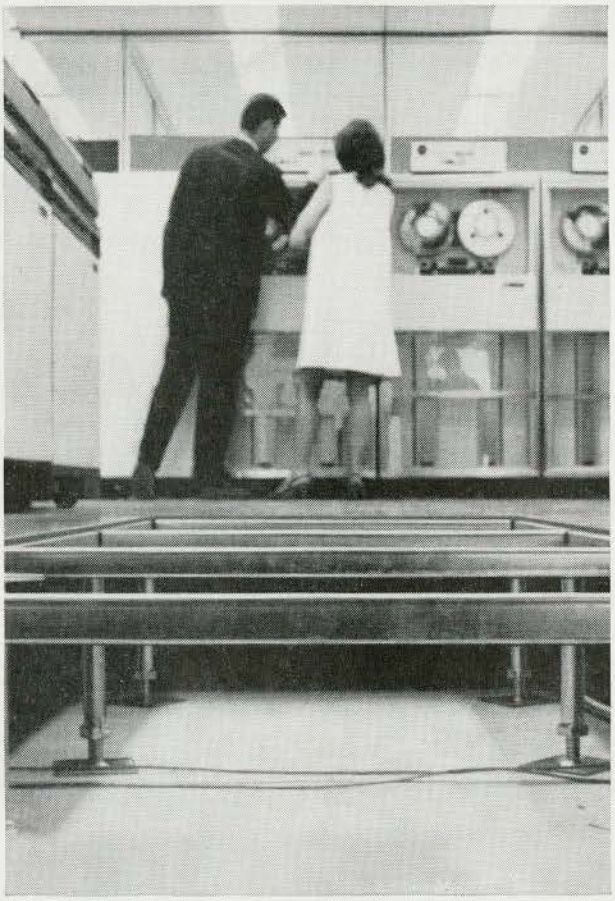
Architect, ten years experience in India seeks opening in Toronto area. Conversant in carrying out details and their execution on site. National Diploma in Architecture and an elected member of the India Institute of Architects since August, 1956. Reply, S. K. Sabharwal c/o Mr I. U. Siddiqui, Aryan Travel Service, Delhi Stock Exchange Bldg. Asaf Ali Road, New Delhi-1 (India)

British registered architect, 32 years old, with 4½ years post collegiate experience, seeks position in architectural practice in Canada, Ottawa preferred. Permanent or long term immigration intended. John E. Carter, Dip. Arch., ARIBA, 10 Brookfield Road, Coton, Cambridgeshire, England

Dipl. Ing. Architect, 1962, Univ. of Tech. Stuttgart, W. Germany, member German Institute of Architects, member Indian Institute of Architects, eight years experience in Germany now practicing in New Delhi seeks position in architect's office. P. K. Parti, M. Arch., P-35 South Extn-2, New Delhi-16 (India)

Young architect (Govt Diploma in Architecture 1966 and Associate Member of Indian Institute of Architects), seven years experience as architectural assistant. Has worked on several residential group housing and commercial buildings seeks position. Write Sudershan Kumar Dhalla, 17/12, Ramesh Nagar, New Delhi, India.

Dutchman (Amsterdam) age 36, graduate Technical High School, 13 years experience in architect's office, good references, seeks employment as an architectural draftsman in Toronto or surroundings. Reply: Lambert Stel, c/o Poste restante, Toronto



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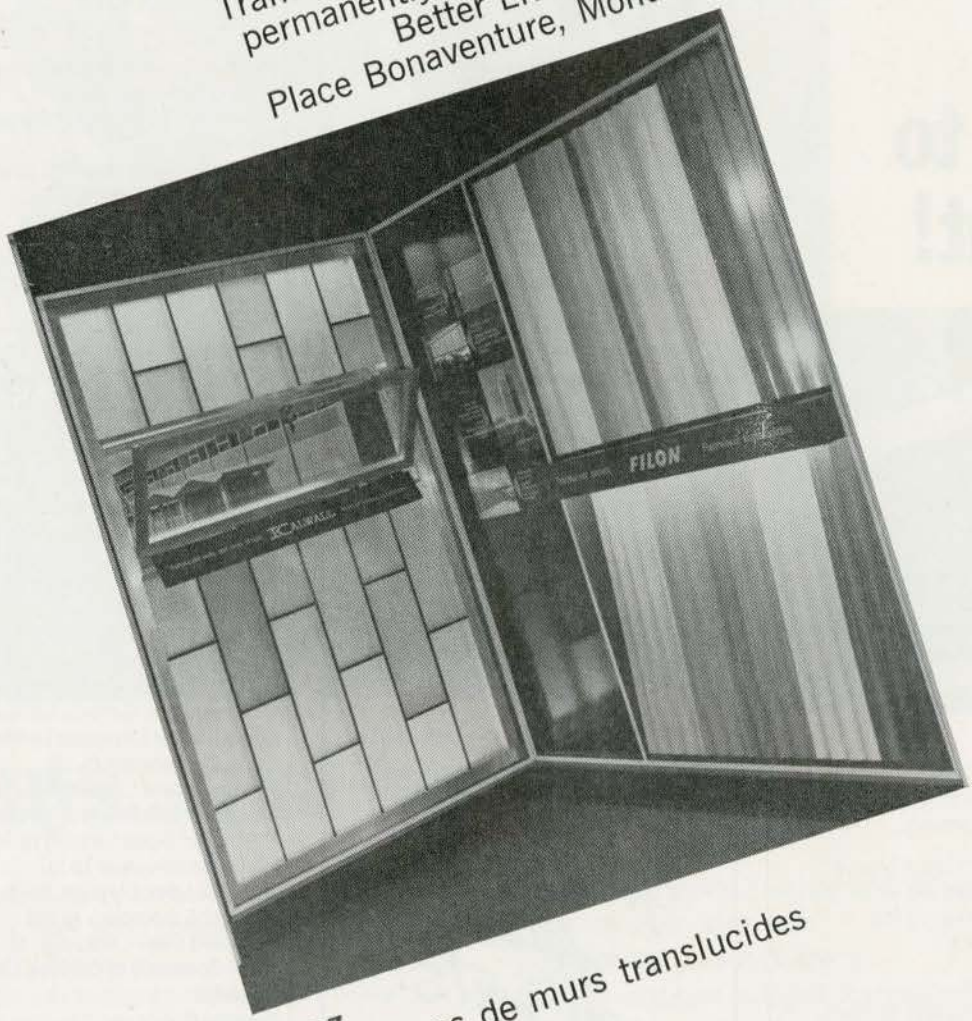

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Index to Advertisers

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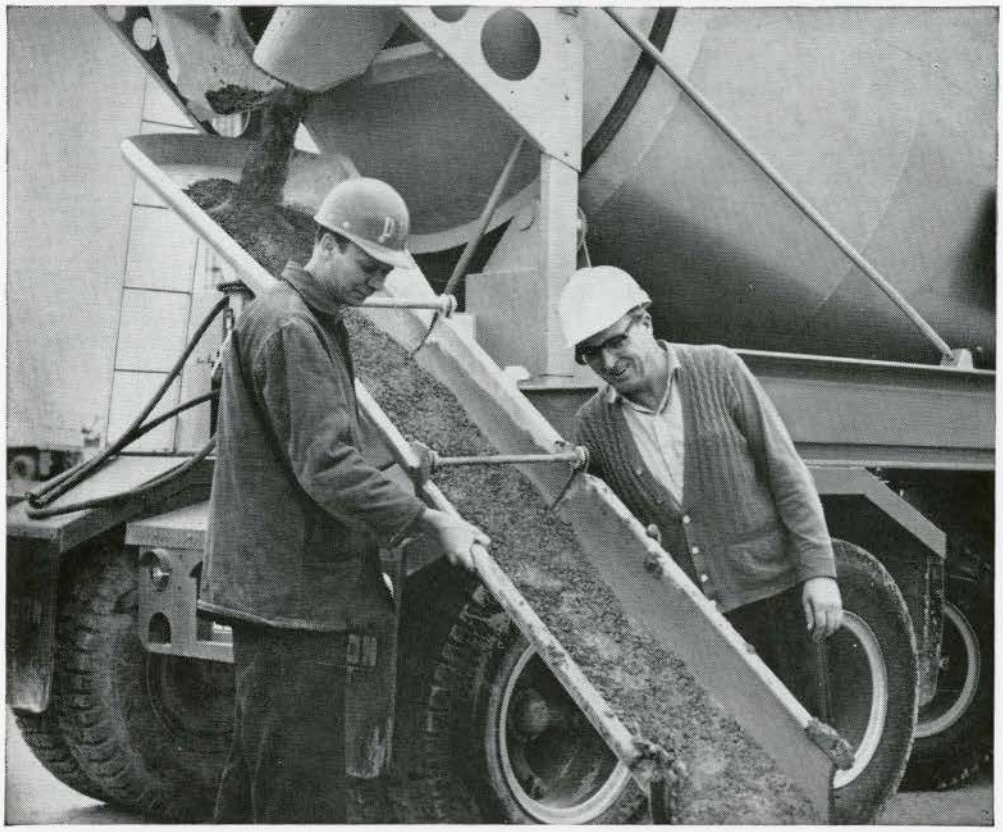

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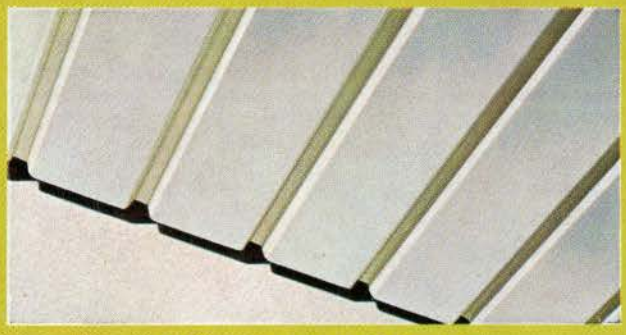

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